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MDH 301

MULTIDISCIPLINARY HEALTHCARE II



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Course code: MDH 301

Course title: Multidisciplinary Healthcare II

Course credit load: 2 Units

Series 1: Clinical Ethics and Professionalism

- **Part 1.1: Foundations of Clinical Ethics**

- Sub Part 1.1.1: Definition and scope of clinical ethics
- Sub Part 1.1.2: The four principles of biomedical ethics
- Sub Part 1.1.3: Applying ethical principles to clinical decisions

- **Part 1.2: Informed Consent and Patient Autonomy**

- Sub Part 1.2.1: The doctrine of informed consent
- Sub Part 1.2.2: Capacity, voluntariness, and disclosure
- Sub Part 1.2.3: Consent in special situations

- **Part 1.3: Confidentiality and Truth-Telling**

- Sub Part 1.3.1: Medical confidentiality
- Sub Part 1.3.2: Exceptions to confidentiality
- Sub Part 1.3.3: Truth-telling and disclosure of diagnosis

- **Part 1.4: Medical Professionalism**

- Sub Part 1.4.1: Defining medical professionalism
- Sub Part 1.4.2: Professional responsibilities and accountability
- Sub Part 1.4.3: Professionalism challenges in Nigerian healthcare

Introduction

Healthcare professionals make decisions every day that affect the lives, dignity, and rights of their patients. These decisions are not only clinical; they are ethical. Whether to disclose a difficult diagnosis, how to respect a patient who refuses treatment, or when to override a patient wish for their own safety, these are questions that cannot be answered by medical knowledge alone. They require a framework of ethical principles and a commitment to professional values.

The aim of this Series is to equip you with the ethical foundations and professional standards that underpin responsible practice in multidisciplinary healthcare.

We shall commence by exploring the foundations of clinical ethics and the four biomedical principles. Next, we will examine informed consent and patient autonomy in depth. Following that, we will address medical confidentiality, its scope and exceptions, and the ethics of truth-telling. Finally, we will close by defining medical professionalism and examining the accountability challenges specific to Nigerian healthcare.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 1.1** define clinical ethics and explain the scope of the four principles of biomedical ethics,
- **SLO 1.2** apply the four principles to analyse a clinical ethical dilemma,
- **SLO 1.3** explain the doctrine of informed consent and describe the elements required for valid consent,
- **SLO 1.4** describe the special consent considerations applicable to minors, unconscious patients, and mentally incapacitated individuals,

- **SLO 1.5** explain the obligation of medical confidentiality and describe its recognised exceptions,
- **SLO 1.6** discuss the ethics of truth-telling and non-disclosure of diagnosis, and
- **SLO 1.7** define medical professionalism and describe the responsibilities and accountability obligations of healthcare professionals in Nigeria.

1.1 Foundations of Clinical Ethics

1.1.1 Definition and scope of clinical ethics

Clinical ethics is the branch of applied ethics that addresses the moral questions arising in the care of individual patients. It draws on moral philosophy to guide decisions about diagnosis, treatment, and the patient-clinician relationship. Unlike abstract ethical theory, clinical ethics is concerned with real decisions affecting real people in specific clinical circumstances.

The scope of clinical ethics includes decisions about beginning and ending treatment, respect for patient autonomy, allocation of scarce resources, and the obligations of professionals to patients, colleagues, and society. It operates within a legal and regulatory framework but extends beyond it: a clinician may act legally but still behave unethically. Ethical practice requires more than legal compliance; it requires reflection, sensitivity, and a commitment to the patient wellbeing.

Fill in the blank: _____ ethics is the branch of applied ethics concerned with the moral questions arising in the care of individual patients in specific clinical circumstances.

1.1.2 The four principles of biomedical ethics

Beauchamp and Childress identified four principles that provide a widely accepted framework for clinical ethics. **Autonomy** is the right of a patient to make informed decisions about their own care. **Beneficence** is the obligation of the clinician to act in the patient best interest. **Non-maleficence** is the duty to avoid causing unnecessary harm, summarised as *primum non nocere*

(first, do no harm). **Justice** requires that healthcare resources and opportunities be distributed fairly, without discrimination.

These four principles are sometimes described as prima facie obligations: each is binding unless it conflicts with another, in which case the clinician must weigh their relative importance in the specific context. For example, a patient right to refuse treatment (autonomy) may conflict with the clinician duty to preserve life (beneficence). Resolving such conflicts requires careful reasoning rather than the mechanical application of rules.

Fill in the blank: The four principles of biomedical ethics are autonomy, beneficence, _____, and justice.

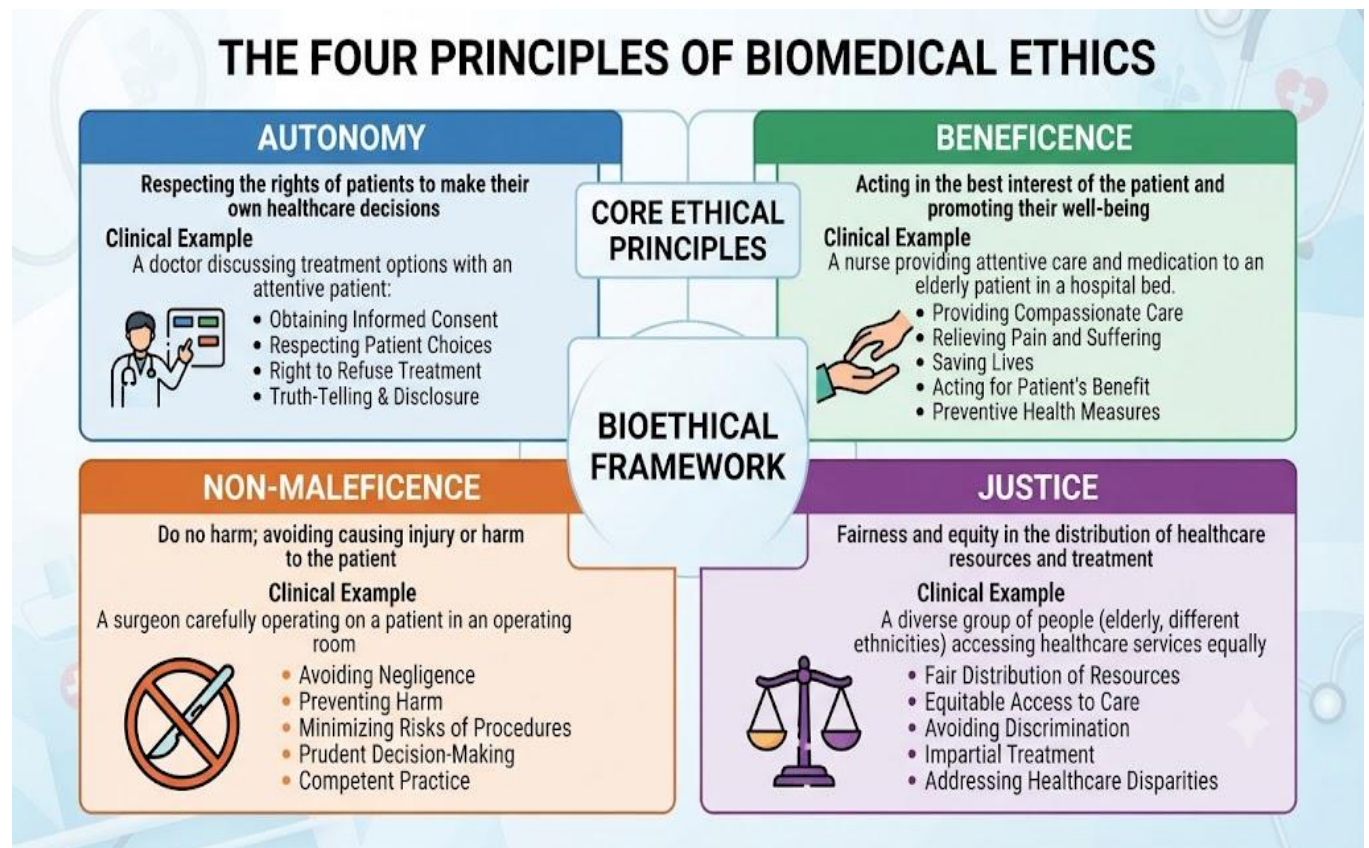


Figure 1.1: The four principles of biomedical ethics

1.1.3 Applying ethical principles to clinical decisions

Applying ethical principles to a clinical decision involves identifying which principles are relevant, determining whether they conflict, and reasoning through the conflict to reach a defensible conclusion. A useful framework is to ask: what are the patient wishes (autonomy)? What outcome would benefit the patient most (beneficence)? What risks or harms are involved (non-maleficence)? Is the proposed approach fair to this patient and to others (justice)?

In practice, ethical dilemmas rarely yield to a single correct answer. The goal is a **reasoned justification** for the chosen course of action, one that acknowledges competing considerations and can be explained to the patient, the family, and colleagues. Clinical ethics committees in hospitals exist to support clinicians facing particularly difficult dilemmas, and consulting them is itself a mark of professional responsibility rather than uncertainty.

Fill in the blank: When ethical principles conflict in a clinical decision, the goal is a _____ justification that acknowledges competing considerations and can be explained to all parties involved.

Pilot questions 1.1

1. Define clinical ethics.
2. Name the four principles of biomedical ethics.
3. What does non-maleficence mean?
4. What is meant by prima facie obligations?
5. What is the role of a clinical ethics committee?

1.2 Informed Consent and Patient Autonomy

1.2.1 The doctrine of informed consent

Informed consent is the process by which a patient voluntarily agrees to a proposed intervention after being given sufficient information to make a meaningful decision. It is rooted in the principle of autonomy and is recognised in both ethical frameworks and Nigerian law.

Performing a procedure on a patient without valid consent may constitute battery under civil law, regardless of the clinical outcome.

Informed consent is a process, not a form. A signed consent form without genuine communication and understanding does not constitute valid consent. The clinician must engage the patient in a conversation, provide information in a language and at a level the patient can understand, answer questions honestly, and give the patient adequate time to decide.

Documentation of this process is important but does not replace it.

Fill in the blank: Informed consent is a _____ not a form; a signed document without genuine communication and understanding does not constitute valid consent.

1.2.2 Capacity, voluntariness, and disclosure

Valid consent requires three elements. **Capacity** is the ability to understand, retain, and weigh information and communicate a decision; it is decision-specific and may fluctuate.

Voluntariness means the decision is free from coercion, manipulation, or undue influence.

Disclosure requires that the patient receive all information material to the decision, including the nature of the proposed intervention, its benefits and risks, alternatives (including no treatment), and the likely consequences of refusal.

The **Bolam test** in English law (widely referenced in Nigerian medical practice) held that a clinician need only disclose what a responsible body of medical opinion would disclose. This has since been modified by the **Montgomery ruling** (2015), which requires disclosure of all material risks that a reasonable patient in the same circumstances would want to know. Nigerian medical practice is moving in this direction, with increasing recognition that the patient standard of disclosure, not the clinician standard, is the appropriate benchmark.

Fill in the blank: The three elements required for valid informed consent are capacity, _____, and disclosure.

1.2.3 Consent in special situations

Several clinical situations require modified consent procedures. For **minors** (persons under 18), consent is given by a parent or legal guardian, except in Nigeria where a child who demonstrates sufficient maturity may consent independently for certain decisions. For **unconscious patients**, emergency treatment may proceed without consent under the doctrine of necessity, provided it is limited to what is immediately necessary to preserve life or prevent serious harm. For patients with **mental incapacity**, the Mental Health Act framework and the best interests principle guide decision-making.

Research consent carries additional obligations beyond therapeutic consent. Participants must understand the difference between research and treatment, the voluntary nature of participation, their right to withdraw without affecting their care, and the measures in place to protect their safety. Institutional ethics review and individual informed consent are both required for research involving human subjects, in line with the Declaration of Helsinki and Nigerian guidelines for health research ethics.

Fill in the blank: For an unconscious patient in an emergency, treatment may proceed without consent under the doctrine of _____, provided it is limited to what is immediately necessary to preserve life or prevent serious harm.

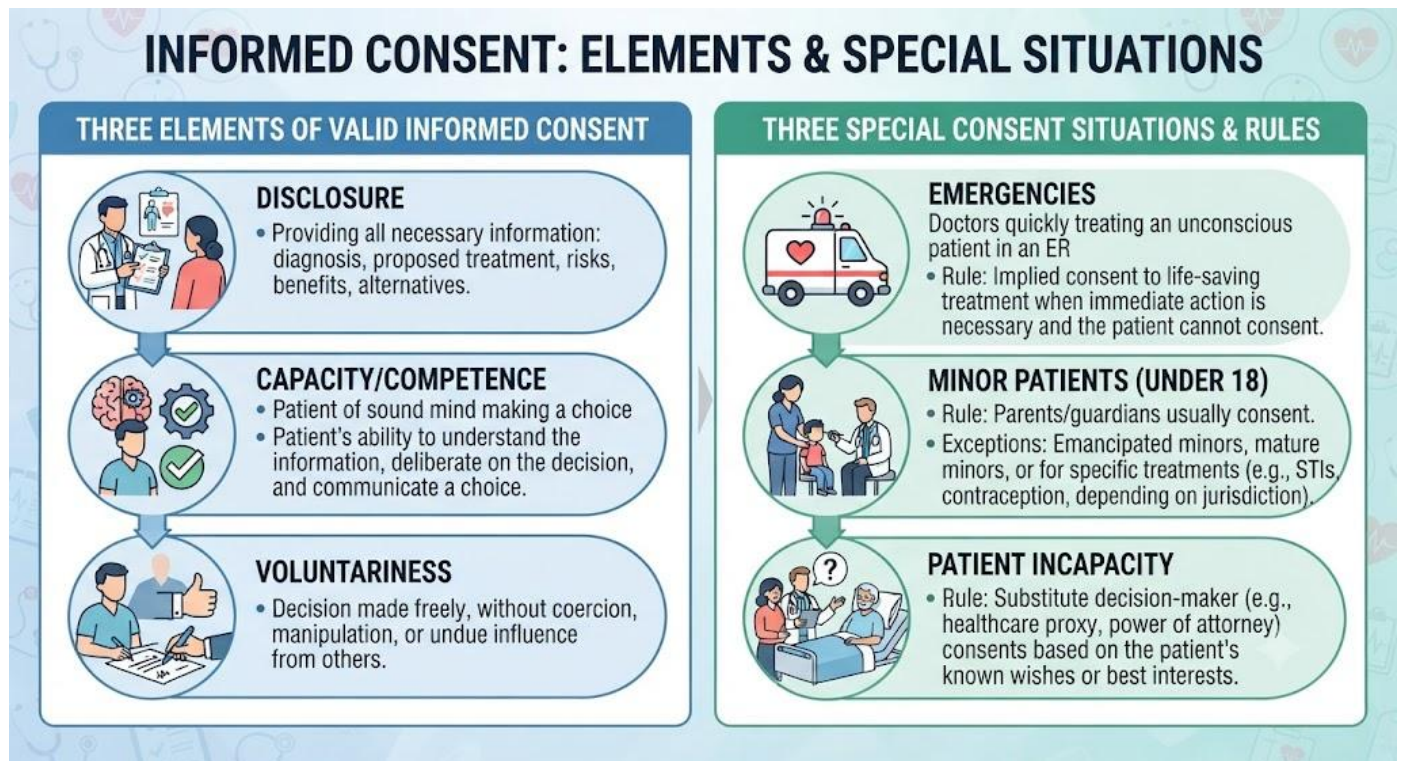


Figure 1.2: Elements of valid informed consent and special consent situations

Pilot questions 1.2

1. Define informed consent.
2. Name the three elements of valid informed consent.
3. What is the difference between the Bolam test and the Montgomery ruling regarding disclosure?
4. When may a clinician treat an unconscious patient without consent?
5. What additional obligations apply to consent for research participation?

1.3 Confidentiality and Truth-Telling

1.3.1 Medical confidentiality

Medical confidentiality is the ethical and legal obligation to protect information shared by a patient in the context of a clinical relationship. It exists because patients must be able to disclose

sensitive information to their clinician without fear of exposure, and because the clinical relationship depends on trust. A breach of confidentiality, even without intent to harm, damages that trust and may deter patients from seeking care or sharing information that is clinically critical.

Confidentiality applies not only to the treating clinician but to all members of the healthcare team with access to patient information. Information may be shared within the team on a **need-to-know** basis to facilitate care, but this sharing must be limited to what is necessary. Disclosing patient information to family members, employers, or other third parties without the patient consent is a breach of confidentiality regardless of intent, except where a recognised exception applies.

Fill in the blank: Medical _____ is the obligation to protect patient information shared in the clinical relationship; it applies to all members of the healthcare team, not only to the treating clinician.

1.3.2 Exceptions to confidentiality

Confidentiality is not absolute. Recognised exceptions in Nigerian and international practice include: **patient consent** to disclosure, **legal requirements** such as mandatory notification of notifiable diseases or court orders, and **public interest** where disclosure is necessary to prevent serious harm to an identifiable third party. The third exception is the most ethically contested: the duty to warn an identified third party at serious risk (as in the Tarasoff case) must be weighed against the confidentiality obligation and the likely effectiveness of disclosure.

In the Nigerian context, the duty to report notifiable communicable diseases, including cholera, yellow fever, and Lassa fever, is a legal obligation that overrides confidentiality. HIV status presents a recurring dilemma: a patient who refuses to disclose their status to a partner at serious risk places the clinician in a conflict between the duty of confidentiality and the duty to protect a third party. Current guidance supports a structured approach: counsel, encourage voluntary disclosure, offer partner notification services, and consider limited disclosure only if the risk remains serious and voluntary measures have failed.

Fill in the blank: The three recognised exceptions to medical confidentiality are patient _____, legal requirements, and public interest where serious harm to a third party must be prevented.

1.3.3 Truth-telling and disclosure of diagnosis

The obligation to tell patients the truth about their diagnosis and prognosis is grounded in respect for autonomy. A patient who does not know their diagnosis cannot make informed decisions about their treatment, their personal affairs, or their relationships with others. Withholding a terminal diagnosis to protect the patient from distress is a paternalistic act that substitutes the clinician judgment for the patient right to know.

In the Nigerian clinical context, family members often request that a serious diagnosis be withheld from the patient. This request deserves respectful engagement but must ultimately be balanced against the patient right to information. Good practice involves exploring what the patient already knows or suspects, eliciting how much they wish to be told, and disclosing information at the patient own pace with appropriate support. Abrupt, unmediated disclosure without emotional support is also ethically problematic; the goal is compassionate truth-telling, not cruel honesty.

Fill in the blank: Withholding a diagnosis to protect a patient from distress is a _____ act that substitutes the clinician judgment for the patient right to receive accurate information about their own health.

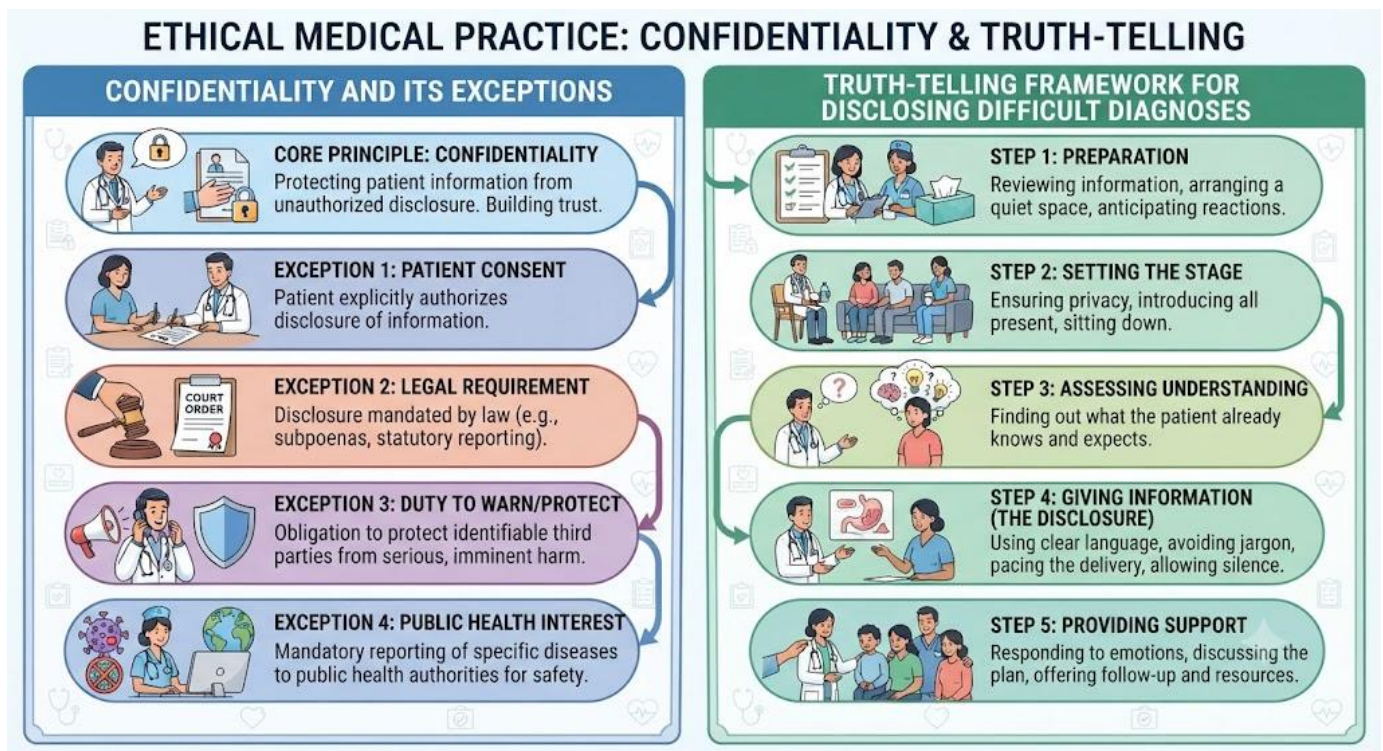


Figure 1.3: Confidentiality, its exceptions, and the truth-telling dilemma

Pilot questions 1.3

1. Why does medical confidentiality exist?
2. Name three recognised exceptions to medical confidentiality.
3. How should a clinician approach an HIV-positive patient who refuses to disclose their status to their partner?
4. What is therapeutic privilege and why is it ethically problematic?
5. Describe the steps of compassionate truth-telling when disclosing a serious diagnosis.

1.4 Medical Professionalism

1.4.1 Defining medical professionalism

Medical professionalism refers to the set of values, behaviours, and relationships that underpin public trust in clinicians and the healthcare system. Core attributes include **competence**

(maintaining the knowledge and skills required for safe practice), **integrity** (honesty in all professional interactions), **compassion** (genuine concern for patient welfare), **respect** (for patients, colleagues, and the diversity of human experience), and **accountability** (accepting responsibility for one actions and their consequences).

Professionalism is not merely personal virtue; it is a social contract between the medical profession and society. Society grants clinicians autonomy, authority, and trust; in return, clinicians commit to placing patient welfare above self-interest and to maintaining the standards that justify that trust. When professionalism breaks down, whether through negligence, dishonesty, or misconduct, it damages not only the individual patient but the entire profession reputation and the public confidence in healthcare.

Fill in the blank: Medical professionalism is a social _____ between the medical profession and society, in which clinicians commit to patient welfare and high standards in exchange for professional autonomy and public trust.

1.4.2 Professional responsibilities and accountability

Healthcare professionals in Nigeria are accountable to multiple bodies: the patient (ethical and legal duty of care), the profession (the Medical and Dental Council of Nigeria for physicians, and equivalent bodies for other health professions), the employer (contractual obligations), and the law (statutory and common law obligations). These accountability channels are complementary: a clinician may face disciplinary action from the MDCN, civil liability for negligence, and criminal prosecution for serious misconduct simultaneously.

Professional responsibilities include maintaining up-to-date knowledge through continuing professional development (**CPD**), documenting clinical care accurately and contemporaneously, reporting unsafe practice by colleagues, and participating in quality improvement. The obligation to report unsafe colleagues is particularly demanding because it requires placing patient safety above personal loyalty. In Nigeria, the MDCN and the relevant professional councils provide channels for reporting professional misconduct, and using these channels is itself a professional obligation.

Fill in the blank: Healthcare professionals in Nigeria are accountable to the patient, the _____ (such as the MDCN), the employer, and the law simultaneously and on different grounds.

1.4.3 Professionalism challenges in Nigerian healthcare

Nigerian healthcare professionals face professionalism challenges that are often rooted in systemic rather than individual failures. **Brain drain** depletes the most experienced professionals from public institutions. **Irregular salary payment** undermines the economic security that enables professional conduct. **Inadequate infrastructure** forces clinicians to make decisions under constraints that compromise ideal care. **Informal payments** (the expectation of payments beyond official fees) create both ethical obligations and ethical risks for clinicians who must survive in a resource-scarce environment.

Despite these systemic pressures, individual professionalism remains a moral obligation. Systemic failure does not excuse individual misconduct; a clinician who extorts patients, falsifies records, or neglects duties is personally responsible for those acts regardless of the broader environment. At the same time, the profession collectively has an obligation to advocate for the structural changes that would make high professional standards easier to maintain: adequate pay, functional infrastructure, and a regulatory environment that supports rather than undermines ethical practice.

Fill in the blank: _____ drain is the emigration of trained healthcare professionals to other countries, depleting public health institutions of experienced staff and contributing to professionalism challenges in Nigerian healthcare.

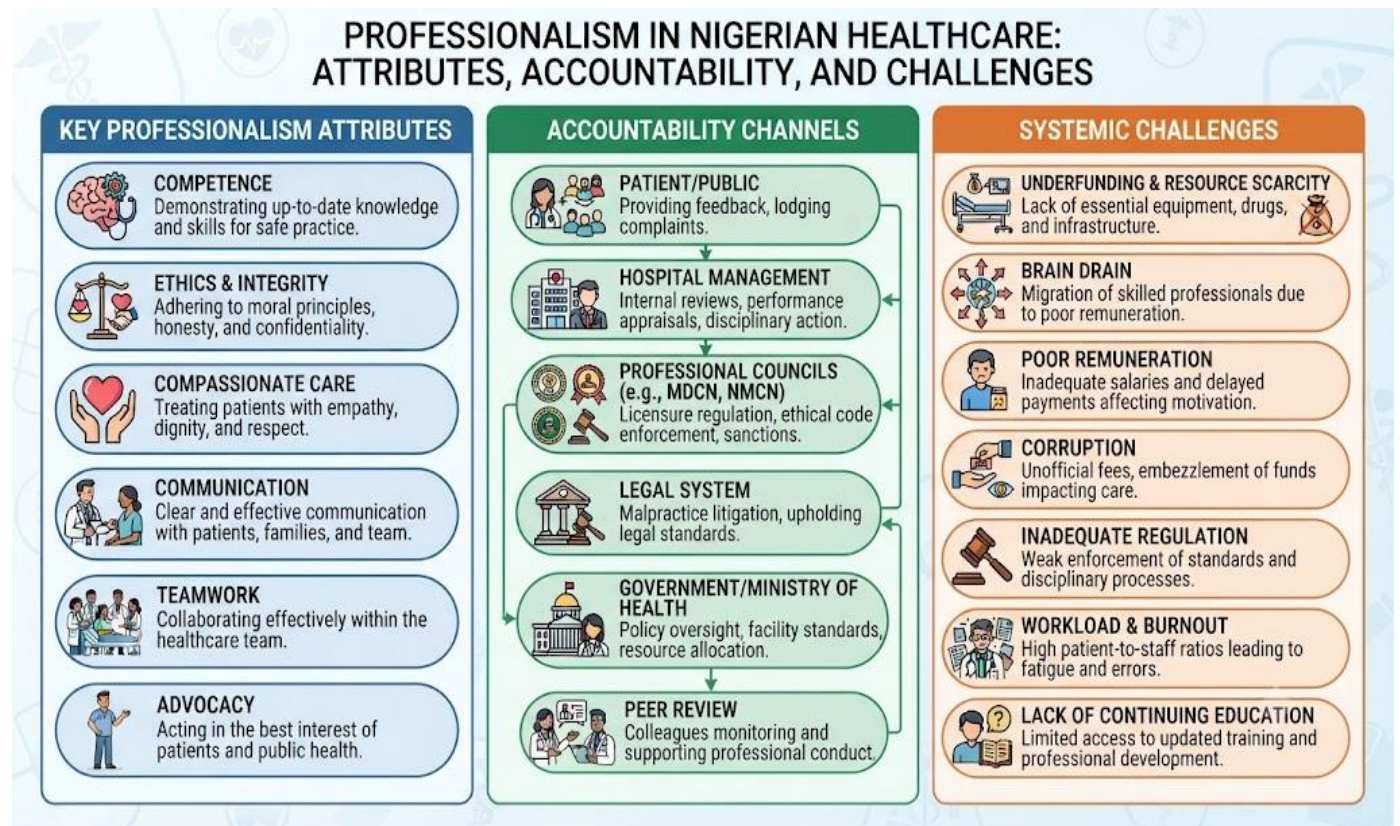


Figure 1.4: Medical professionalism: attributes, accountability, and Nigerian challenges

Pilot questions 1.4

1. Name five core attributes of medical professionalism.
2. What is the social contract of medical professionalism?
3. To which four bodies are healthcare professionals in Nigeria accountable?
4. Name two systemic challenges to professionalism in Nigerian healthcare.
5. Does systemic failure excuse individual professional misconduct? Explain briefly.

Series Summary

This Series examined the ethical and professional foundations of clinical practice. The four principles of biomedical ethics, autonomy, beneficence, non-maleficence, and justice, provide the framework for analysing clinical dilemmas. Informed consent was shown to be a process requiring capacity, voluntariness, and disclosure, with special rules for minors, unconscious patients, and research participants. Confidentiality was established as a fundamental professional obligation with recognised exceptions for consent, legal requirement, and public interest, and truth-telling was examined as an obligation rooted in respect for patient autonomy.

Medical professionalism was defined as a social contract between the profession and society, requiring competence, integrity, compassion, respect, and accountability. The Nigerian context was examined through its accountability structures and its specific systemic challenges, including brain drain, inadequate infrastructure, and informal payments. By completing this Series, you should be able to apply these principles to clinical dilemmas, explain consent and confidentiality obligations, and describe the professional standards expected of clinicians in Nigeria (SLOs 1.1 to 1.7).

Glossary of Terms

- **Autonomy:** the ethical principle that patients have the right to make informed decisions about their own care without coercion.
- **Beneficence:** the ethical obligation to act in the patient best interest.
- **Brain drain:** the emigration of trained healthcare professionals from a country, depleting domestic health system capacity.
- **Capacity:** the ability to understand, retain, and weigh information and communicate a decision; a prerequisite for valid informed consent.
- **Clinical ethics:** the branch of applied ethics addressing moral questions arising in the care of individual patients.

- **Confidentiality:** the obligation to protect patient information shared in the clinical relationship from unauthorised disclosure.
- **Informed consent:** the process by which a patient voluntarily agrees to an intervention after receiving sufficient information to make a meaningful decision.
- **Justice:** the ethical principle requiring fair distribution of healthcare resources and opportunities without discrimination.
- **Medical professionalism:** the set of values, behaviours, and relationships that underpin public trust in clinicians and the healthcare system.
- **Non-maleficence:** the ethical duty to avoid causing unnecessary harm, expressed as primum non nocere (first, do no harm).
- **Prima facie obligation:** an ethical duty that is binding unless it conflicts with another, in which case their relative weights must be considered.
- **Voluntariness:** the requirement that a patient decision be free from coercion, manipulation, or undue influence.

Concept Check Questions [Series 1]

Objective questions

1. _____ ethics is the branch of applied ethics addressing moral questions that arise in the care of individual patients. (Linked to SLO 1.1)
2. The four principles of biomedical ethics are autonomy, beneficence, _____, and justice. (Linked to SLO 1.2)
3. The three elements of valid informed consent are capacity, _____, and disclosure. (Linked to SLO 1.3)
4. For an unconscious patient in an emergency, treatment may proceed under the doctrine of _____. (Linked to SLO 1.4)
5. Medical _____ is the obligation to protect patient information shared in the clinical relationship from unauthorised disclosure. (Linked to SLO 1.5)
6. Medical professionalism is a social _____ between the profession and society. (Linked to SLO 1.7)

Short-answer questions

7. Explain the four principles of biomedical ethics and give one clinical example of a conflict between two of them. (Linked to SLO 1.2)
8. Name three recognised exceptions to medical confidentiality and describe the structured approach to an HIV-positive patient who refuses to disclose their status. (Linked to SLO 1.5)
9. Name five core attributes of medical professionalism and describe two systemic challenges to professionalism in Nigerian healthcare. (Linked to SLO 1.7)

Long-answer questions

10. Discuss informed consent in clinical practice, covering its definition, the three elements of validity, and the special consent rules for minors, unconscious patients, and research participants. (Linked to SLOs 1.3, 1.4)
11. Discuss the ethics of confidentiality and truth-telling, explaining the scope of the confidentiality obligation, its exceptions, and the principles of compassionate truth-telling in the Nigerian context. (Linked to SLOs 1.5, 1.6)

Answers to Concept Check Questions [Series 1]

Objective questions

1. Clinical.
2. Non-maleficence.
3. Voluntariness.
4. Necessity.
5. Confidentiality.
6. Contract.

Short-answer questions

7. Autonomy: patient right to decide. Beneficence: act in patient best interest. Non-maleficence: avoid unnecessary harm. Justice: fair distribution of resources. Conflict example: a patient with decision-making capacity refuses a blood transfusion for religious reasons (autonomy); the clinician believes the transfusion is life-saving (beneficence). Respecting autonomy requires accepting the refusal; beneficence would support intervening. In a competent adult, autonomy prevails.
8. Three exceptions: patient consent to disclosure; legal requirement (notifiable disease, court order); public interest to prevent serious harm to an identifiable third party. HIV approach: counsel the patient on the importance of disclosure; offer partner notification

services; explore barriers to voluntary disclosure; consider limited disclosure only if the risk remains serious and imminent and voluntary measures have failed.

9. Five attributes: competence, integrity, compassion, respect, accountability. Two Nigerian challenges: brain drain (emigration of trained professionals depletes public institutions of experienced staff); informal payments (expectation of payments beyond official fees creates ethical risks and undermines equitable access to care).

Long-answer questions

10. Basic response

Informed consent is the process by which a patient voluntarily agrees to an intervention after receiving sufficient information. Three elements: capacity (ability to understand, retain, weigh, and communicate a decision), voluntariness (free from coercion or undue influence), disclosure (nature of procedure, benefits, risks, alternatives, consequences of refusal). Minors: consent by parent or guardian; mature minors may consent independently. Unconscious patients: doctrine of necessity permits emergency treatment limited to what is immediately necessary. Research: additional obligations include explaining the research-treatment distinction, right to withdraw without affecting care, and ethics review.

10. Value-added response

Informed consent is also the mechanism by which clinicians respect the patient as a person rather than a passive recipient of care. When done well, it transforms the clinical encounter from a directive into a collaboration, improving understanding, adherence, and trust. In Nigeria, time pressure, literacy gaps, and power differentials between patients and clinicians mean that genuine informed consent requires deliberate effort beyond the routine signing of a form.

11. Basic response

Confidentiality: obligation to protect patient information shared in the clinical relationship; applies to all team members; may be shared within the team on a need-to-know basis. Three exceptions: patient consent, legal requirement, public interest. Truth-telling: grounded in respect for autonomy; patients cannot make informed decisions without accurate information.

Therapeutic privilege is ethically problematic as it substitutes clinician judgment for patient right. Nigerian context: family requests to withhold diagnoses should be engaged respectfully but balanced against patient right; structured disclosure involves exploring knowledge, eliciting preferences, pacing information, and providing emotional support.

11. Value-added response

Confidentiality and truth-telling are both expressions of the same underlying value: respect for the patient as an autonomous person. A clinician who withholds information to protect the patient from distress, or who shares it without consent to protect a third party, is navigating a genuine tension between competing duties. The quality of ethical practice lies not in always getting the answer right but in reasoning transparently, consulting colleagues where needed, and remaining accountable for the decision taken.

Answers to Pilot Questions [Series 1]

Part 1.1

1. Clinical ethics is the branch of applied ethics that addresses the moral questions arising in the care of individual patients.
2. Autonomy, beneficence, non-maleficence, justice.
3. The duty to avoid causing unnecessary harm to the patient; expressed as *primum non nocere*, first do no harm.
4. An ethical duty that is binding unless it conflicts with another of equal moral weight, in which case the clinician must weigh their relative importance in the specific situation.
5. To support clinicians facing complex ethical dilemmas by providing a forum for structured ethical analysis and consultation.

Part 1.2

1. The process by which a patient voluntarily agrees to a proposed intervention after being given sufficient information to make a meaningful decision.
2. Capacity, voluntariness, disclosure.
3. The Bolam test required only disclosure of what a responsible body of medical opinion would disclose. The Montgomery ruling requires disclosure of all material risks that a reasonable patient in the same circumstances would want to know, shifting the standard from the clinician to the patient.
4. Under the doctrine of necessity, when treatment is immediately necessary to preserve life or prevent serious harm and the patient is unable to consent.
5. Participants must understand the difference between research and treatment, know their participation is voluntary, know they may withdraw without affecting their care, and be protected by ethics review and informed consent procedures.

Part 1.3

1. To protect information shared by patients in the clinical relationship, enabling patients to disclose sensitive information honestly without fear of exposure, thereby preserving the trust on which clinical care depends.
2. Patient consent to disclosure; legal requirement such as notifiable disease or court order; public interest where disclosure is necessary to prevent serious harm to an identifiable third party.
3. Counsel the patient on the importance of disclosure; offer partner notification services; explore and address barriers to voluntary disclosure; consider limited disclosure without consent only if the risk remains serious and imminent and voluntary measures have failed; document the process.
4. Therapeutic privilege is the practice of withholding a diagnosis to protect the patient from distress. It is ethically problematic because it substitutes the clinician judgment for the patient right to accurate information, preventing autonomous decision-making.

5. Explore what the patient already knows; elicit how much they wish to be told; disclose information gradually at the patient own pace; provide emotional support throughout; offer to involve family with the patient consent; arrange follow-up.

Part 1.4

1. Competence, integrity, compassion, respect, accountability.
2. Society grants clinicians autonomy, authority, and trust; in return, clinicians commit to placing patient welfare above self-interest and maintaining the standards that justify that trust.
3. The patient (ethical and legal duty of care), the profession (MDCN or relevant professional council), the employer (contractual obligations), and the law (statutory and common law obligations).
4. Any two of: brain drain, irregular salary payment, inadequate infrastructure, informal payment expectations.
5. No. Systemic failure may contextualise individual conduct but does not excuse it. A clinician remains personally responsible for their own acts of negligence, dishonesty, or misconduct regardless of the wider environment.

References and Attributions [Series 1]

Textual references

- Beauchamp, T. L., & Childress, J. F. (2019). Principles of biomedical ethics (8th ed.). Oxford University Press.
- Gillon, R. (1994). Medical ethics: Four principles plus attention to scope. *BMJ*, 309(6948), 184-188.
- *Montgomery v Lanarkshire Health Board* [2015] UKSC 11. Supreme Court of the United Kingdom.
- National Open University of Nigeria (NOUN). (2023). Multidisciplinary healthcare II course material. NOUN Press.

Figures, Plates, Tables, and Boxes

- Figure 1.1: The four principles of biomedical ethics Attribution: AI generated using prompt "Generate a four-quadrant diagram of the biomedical ethics principles: autonomy, beneficence, non-maleficence, and justice, with definitions and clinical examples." Suggested OER search string: "four principles biomedical ethics autonomy beneficence non-maleficence justice clinical ethics OER"
- Figure 1.2: Elements of valid informed consent and special consent situations Attribution: AI generated using prompt "Generate a two-panel diagram showing the three elements of valid informed consent and three special consent situations with their applicable rules." Suggested OER search string: "informed consent elements capacity voluntariness disclosure special situations minors unconscious OER"
- Figure 1.3: Confidentiality, its exceptions, and the truth-telling dilemma Attribution: AI generated using prompt "Generate a two-panel diagram showing confidentiality with its exceptions and a truth-telling framework for disclosing difficult diagnoses." Suggested OER search string: "medical confidentiality exceptions truth-telling disclosure diagnosis patient autonomy OER"

- Figure 1.4: Medical professionalism: attributes, accountability, and Nigerian challenges
Attribution: AI generated using prompt "Generate a three-panel diagram showing professionalism attributes, accountability channels, and systemic professionalism challenges in Nigerian healthcare." Suggested OER search string: "medical professionalism accountability MDCN brain drain informal payments Nigerian healthcare OER"

Series 2: Interdisciplinary Healthcare Delivery

- **Part 2.1: Foundations of Interdisciplinary Healthcare**
 - Sub Part 2.1.1: Definition and rationale for interdisciplinary care
 - Sub Part 2.1.2: Interdisciplinary versus multidisciplinary versus transdisciplinary models
 - Sub Part 2.1.3: Benefits and evidence for interdisciplinary care
- **Part 2.2: The Interdisciplinary Healthcare Team**
 - Sub Part 2.2.1: Composition and roles within the team
 - Sub Part 2.2.2: Communication and collaboration in the team
 - Sub Part 2.2.3: Leadership and decision-making in interdisciplinary teams
- **Part 2.3: Barriers and Enablers of Effective Interdisciplinary Care**
 - Sub Part 2.3.1: Barriers to interdisciplinary collaboration
 - Sub Part 2.3.2: Enablers and strategies for effective teamwork
 - Sub Part 2.3.3: Conflict resolution in healthcare teams
- **Part 2.4: Interdisciplinary Care in the Nigerian Context**
 - Sub Part 2.4.1: Human resources for health in Nigeria
 - Sub Part 2.4.2: Interdisciplinary care in primary, secondary, and tertiary settings
 - Sub Part 2.4.3: Policy frameworks supporting interdisciplinary healthcare in Nigeria

Introduction

No single healthcare professional can provide all the care a patient needs. A patient with a stroke requires a physician for diagnosis, a nurse for ongoing monitoring, a physiotherapist for rehabilitation, a speech therapist for communication, and a social worker for discharge planning. When these professionals work in isolation, patients fall through the gaps between their domains. When they work together as a coordinated team, outcomes improve. Interdisciplinary care is not an organisational preference; it is a clinical necessity.

The aim of this Series is to equip you with the principles, structures, and practical skills of interdisciplinary healthcare delivery, with specific attention to the Nigerian health system context.

We shall commence by defining interdisciplinary care and distinguishing it from related models. Next, we will examine the composition and functioning of the interdisciplinary team. Following that, we will explore the barriers and enablers of effective collaboration. Finally, we will close by examining interdisciplinary care in the Nigerian context, including human resource challenges and relevant policy frameworks.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 2.1** define interdisciplinary healthcare and distinguish it from multidisciplinary and transdisciplinary models,
- **SLO 2.2** describe the composition and role of each member of an interdisciplinary healthcare team,
- **SLO 2.3** explain the communication and leadership principles that enable effective interdisciplinary collaboration,
- **SLO 2.4** identify the main barriers to interdisciplinary care and describe strategies to overcome them,

- **SLO 2.5** describe how conflict is resolved constructively within healthcare teams, and
- **SLO 2.6** describe the human resource landscape and policy context for interdisciplinary care in Nigeria.

2.1 Foundations of Interdisciplinary Healthcare

2.1.1 Definition and rationale for interdisciplinary care

Interdisciplinary healthcare is a model of care in which professionals from different disciplines work together, integrating their knowledge and skills around a shared patient-centred goal. Unlike simply having multiple professionals involved, interdisciplinary care requires active collaboration, shared decision-making, and mutual accountability. The rationale is patient complexity: modern patients, particularly those with chronic conditions, multi-morbidity, or social vulnerabilities, have needs that exceed the competence of any single discipline.

The interdisciplinary model emerged from the recognition that professional silos produce fragmented care with duplicated effort, communication failures, and gaps in the patient experience. Evidence from high-income and low-income settings alike shows that interdisciplinary care reduces hospital readmissions, improves medication safety, and increases patient satisfaction. It also supports professional development: clinicians who work in genuine teams learn from colleagues in other disciplines and develop a broader understanding of the care system.

Fill in the blank: _____ healthcare requires professionals from different disciplines to work together around a shared patient-centred goal, integrating their knowledge, skills, and decision-making.

2.1.2 Interdisciplinary versus multidisciplinary versus transdisciplinary models

In a **multidisciplinary** model, different professionals assess and treat the patient separately and communicate through written reports or occasional meetings. Each profession retains its own

goals and assessment framework. In an **interdisciplinary** model, professionals work together with shared goals, integrated care plans, and regular joint review of the patient. In a **transdisciplinary** model, professionals deliberately share and transfer knowledge across disciplinary boundaries, blurring role definitions so that any team member can deliver components of another discipline care under appropriate supervision.

The choice of model depends on the clinical context and resources available. Multidisciplinary models are most common in resource-limited settings where full team integration is not feasible. Interdisciplinary models are the standard for complex inpatient care, rehabilitation, palliative care, and mental health services. Transdisciplinary models are used in community health settings and in global health programmes where professional workforce shortages make role flexibility necessary.

Fill in the blank: In a _____ model, professionals work with shared goals and integrated care plans, while in a multidisciplinary model each profession retains its own goals and communicates mainly through written reports.

COMPARISON OF HEALTHCARE COLLABORATIVE CARE MODELS

	MULTIDISCIPLINARY	INTERDISCIPLINARY	TRANSDISCIPLINARY
GOAL-SETTING	 • Patient-centered, but primarily defined by each specialist's perspective.	 • Collaborative, team-developed shared goals.	 • Highly collaborative, crossing disciplines to meet holistic patient needs.
COMMUNICATION	 • Hierarchical, with the physician often central; communication is often sequential.	 • Open, frequent, interactive, and team-based; joint problem-solving.	 • Intense, continuous, and highly collaborative; blurring of professional lines.
ROLE BOUNDARIES	 • Clear, distinct, and well-defined; specialists work in parallel.	 • Some overlap; team members share roles and responsibilities common goals.	 • Very flexible, blurred; role release and cross-training can occur.
CARE PLANNING	 • Separate assessments and plans created by each discipline, compiled by the lead.	 • A single, integrated, coordinated plan developed by the whole team.	 • A single, holistic plan with shared responsibilities; tasks may be carried out by any team member.
CLINICAL CONTEXT	 • Common in traditional acute care, some chronic care settings.	 • Common in rehabilitation, palliative care, complex chronic disease management.	 • Common in early childhood intervention, community-based programs, complex home care.

Figure 2.1: Comparison of multidisciplinary, interdisciplinary, and transdisciplinary models

2.1.3 Benefits and evidence for interdisciplinary care

The evidence for interdisciplinary care is strongest in specific clinical contexts. In **oncology**, multidisciplinary tumour boards reduce diagnostic delays and improve treatment planning. In **rehabilitation**, coordinated physiotherapy, occupational therapy, speech therapy, and nursing shortens recovery time and reduces long-term disability. In **palliative care**, interdisciplinary teams addressing physical, psychological, social, and spiritual needs improve quality of life and reduce unnecessary hospital admissions at end of life.

In primary care, interdisciplinary teams including physicians, nurses, pharmacists, and community health workers improve the management of chronic diseases such as hypertension, diabetes, and HIV. In each case, the mechanism is the same: each professional contributes what their training equips them to do best, reducing the burden on any single clinician and ensuring

that no dimension of the patient need is overlooked. The shared care plan is the document that makes this coordination operational.

Fill in the blank: In oncology, _____ tumour boards bring together professionals from different specialties to reduce diagnostic delays and improve treatment planning for individual cancer patients.

Pilot questions 2.1

1. Define interdisciplinary healthcare.
2. What is the key difference between interdisciplinary and multidisciplinary models?
3. Name one clinical context where the evidence for interdisciplinary care is particularly strong.
4. What is a transdisciplinary model and when is it used?
5. Name two patient outcomes that interdisciplinary care has been shown to improve.

2.2 The Interdisciplinary Healthcare Team

2.2.1 Composition and roles within the team

The composition of an interdisciplinary team varies with the clinical setting, but core members typically include the **physician** (overall medical management and diagnosis), **nurse** (continuous patient monitoring, medication administration, patient education), **pharmacist** (medication review, drug interaction checking, counselling), **physiotherapist** (physical rehabilitation and mobility), and **social worker** (discharge planning, community support, addressing social determinants of health). Depending on the setting, the team may also include a dietitian, occupational therapist, speech and language therapist, psychologist, chaplain, or community health extension worker.

Effective interdisciplinary teams do not simply assign tasks to professionals; they **clarify roles** so that each team member knows what is expected of them, what falls within their scope, and where handover to another professional is required. Role clarity reduces duplication of effort,

prevents gaps in care, and reduces professional conflict. A **team coordinator** or case manager often facilitates role clarity and ensures that the care plan is implemented coherently, particularly in complex patients with multiple active problems.

Fill in the blank: The _____ in an interdisciplinary team is responsible for overall medical management and diagnosis, while the nurse is responsible for continuous patient monitoring and medication administration.

2.2.2 Communication and collaboration in the team

Effective communication is the enabling mechanism of interdisciplinary care. **Structured communication tools** such as SBAR (Situation, Background, Assessment, Recommendation) ensure that critical patient information is transmitted accurately between team members during handovers and referrals. **Team meetings** or ward rounds conducted as interdisciplinary discussions, rather than physician-led monologues, allow all disciplines to contribute their assessment and to hear each other perspective on the patient.

The **shared care plan** is the central communication artefact of the interdisciplinary team. It documents the agreed goals, the responsibilities of each team member, the planned interventions, and the timeline for review. When maintained contemporaneously and accurately, it eliminates the information asymmetries that cause care failures. In electronic health record systems, the shared care plan may exist as a structured digital document accessible to all team members; in paper-based settings, a prominently placed bedside folder serves the same function.

Fill in the blank: The _____ is the central communication artefact of the interdisciplinary team, documenting agreed goals, responsibilities, planned interventions, and review timelines.

2.2.3 Leadership and decision-making in interdisciplinary teams

Leadership in an interdisciplinary team is not synonymous with seniority or medical authority. Effective interdisciplinary leadership is **situational**: the person best placed to lead at any moment is the one with the most relevant expertise for the immediate clinical need. A nurse who recognises early deterioration may lead the immediate response; a physiotherapist may lead the

rehabilitation planning session; a social worker may lead the discharge coordination meeting. Distributing leadership in this way makes teams more responsive and draws on the full expertise of all members.

Decision-making in interdisciplinary teams is ideally **consensual**: all team members contribute their perspective, the patient and family are consulted where appropriate, and a shared decision emerges from the deliberation. In practice, time and urgency sometimes require that a single clinician makes a decision without full team consultation. In these cases, the decision should be communicated to all team members promptly and reviewed at the next team meeting.

Documenting the rationale for decisions taken outside the full team process protects both the patient and the clinician.

Fill in the blank: Effective interdisciplinary leadership is _____ : the person best placed to lead at any given moment is the one with the most relevant expertise for the immediate clinical need.

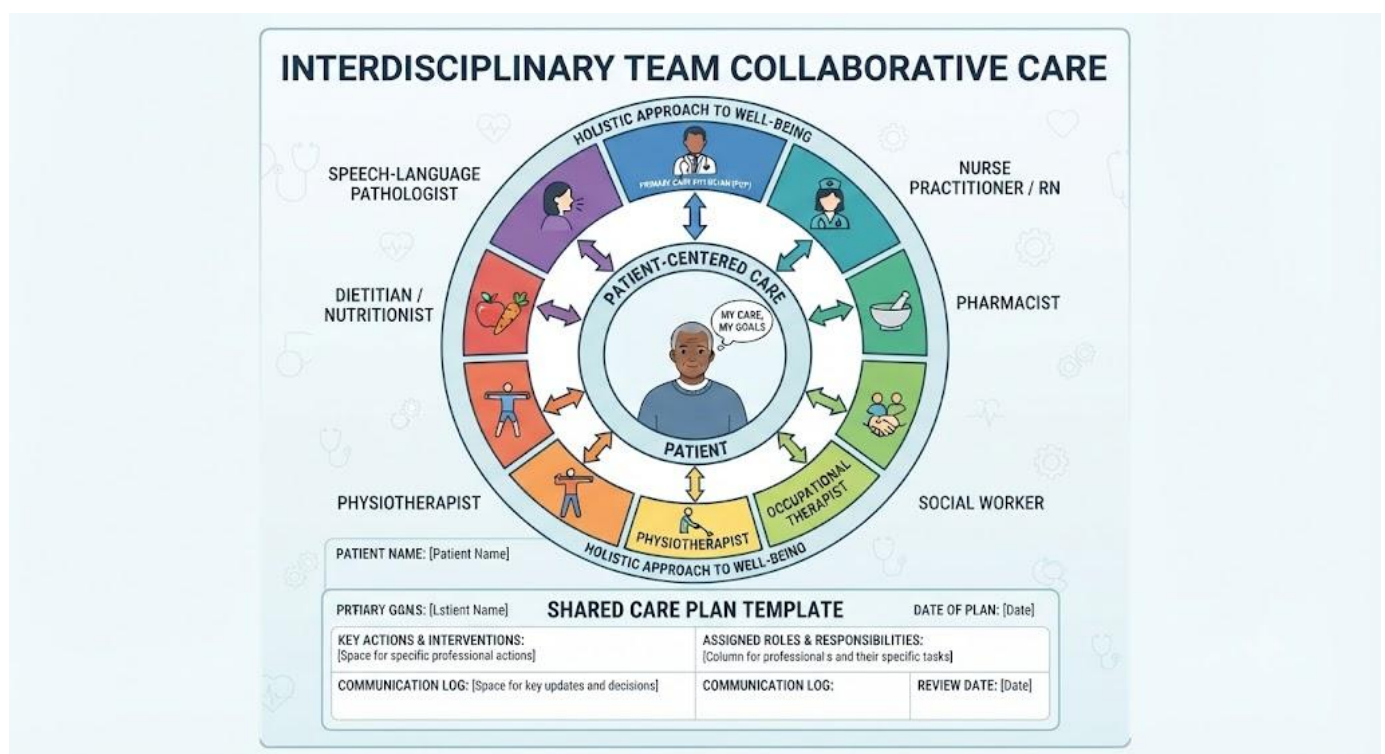


Figure 2.2: Composition and communication in the interdisciplinary team

Pilot questions 2.2

1. Name four core members of an interdisciplinary team and state one role of each.
2. What is the SBAR tool and how is it used in interdisciplinary care?
3. What is a shared care plan and what does it contain?
4. What does situational leadership mean in the context of an interdisciplinary team?
5. How should decisions made outside the full team process be managed?

2.3 Barriers and Enablers of Effective Interdisciplinary Care

2.3.1 Barriers to interdisciplinary collaboration

Several factors impede effective interdisciplinary collaboration. **Professional hierarchy** is perhaps the most pervasive: in settings where physicians are culturally dominant, other professionals may hesitate to contribute their assessment, challenge a decision, or raise a safety concern. **Role ambiguity** — uncertainty about who is responsible for which aspect of the patient care — leads to duplication, conflict, and gaps. **Poor communication**, including the failure to document or share critical information, is a leading cause of adverse events in complex patients.

Structural barriers include **inadequate team meeting time** (in high-throughput clinical environments, there is rarely protected time for genuine interdisciplinary discussion), **electronic systems that do not support shared documentation**, and **physical separation** of professionals who work in different departments or buildings. In the Nigerian context, additional barriers include workforce shortages that leave some disciplines with no qualified representative to contribute, and pay disparities between professional groups that generate resentment and undermine mutual respect.

Fill in the blank: _____ hierarchy, in which physicians are culturally dominant, may prevent other healthcare professionals from contributing their assessments or raising safety concerns in interdisciplinary teams.

2.3.2 Enablers and strategies for effective teamwork

Effective interdisciplinary teamwork is supported by **psychological safety**: the shared belief that team members can speak up, question decisions, and raise concerns without fear of ridicule or punishment. Research by Amy Edmondson and others demonstrates that psychological safety is the single strongest predictor of team performance across diverse industries, including healthcare. Senior clinicians create psychological safety by inviting contributions from junior team members, responding non-defensively to challenges, and modelling intellectual humility.

Other key enablers include **clear goal-setting** (all team members understand and agree on the shared aim for the patient), **regular structured team meetings** with protected time, **interprofessional education** that trains different professions together so they understand each other scope and perspective, and **leadership that explicitly values** the contribution of all team members. In Nigeria, community health extension workers (CHEWs) and community health officers (CHOs) represent an underutilised resource in interdisciplinary teams, particularly in primary care settings where their community knowledge is invaluable.

Fill in the blank: _____ safety is the shared belief that team members can speak up and raise concerns without fear of ridicule or punishment, and is the strongest predictor of team performance.

2.3.3 Conflict resolution in healthcare teams

Conflict within healthcare teams is inevitable and, when managed well, productive: it surfaces differing perspectives and generates better decisions than unchallenged consensus. **Constructive conflict** focuses on the issue (what is the best approach for this patient?) rather than the person (who is right?). The **Thomas-Kilmann conflict modes** describe five responses to conflict: competing, accommodating, avoiding, collaborating, and compromising. In healthcare teams, **collaborating** (seeking a solution that satisfies the concerns of all parties) and **compromising** (each party gives something) are generally most appropriate for patient care decisions.

When conflict cannot be resolved within the team, structured escalation processes are available: referral to a senior clinician, consultation with a clinical ethics committee, or involvement of the

hospital management. The key principle is that unresolved conflict must never be allowed to compromise patient care: a team that cannot agree on a management plan must escalate rather than deadlock. Documenting the nature of the disagreement, the positions held, and the resolution reached protects all parties and provides a record for future reference.

Fill in the blank: In the Thomas-Kilmann conflict model, the _____ mode seeks a solution that satisfies the concerns of all parties and is generally the most appropriate approach to disagreements about patient care.

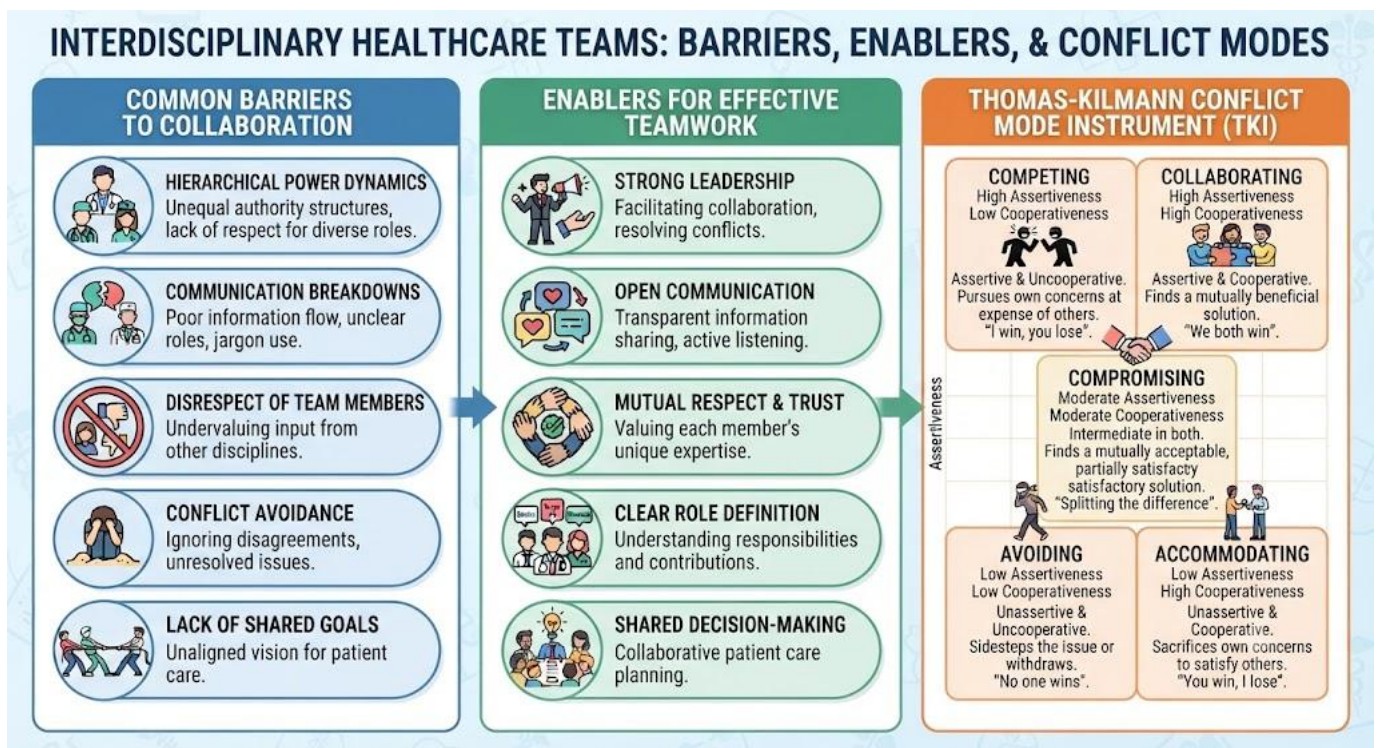


Figure 2.3: Barriers, enablers, and conflict resolution in interdisciplinary teams

Pilot questions 2.3

1. Name three barriers to effective interdisciplinary collaboration.
2. What is psychological safety and why does it matter for team performance?
3. Name the five Thomas-Kilmann conflict modes.
4. Which conflict modes are generally most appropriate in healthcare teams?
5. What should a team do when conflict cannot be resolved internally?

2.4 Interdisciplinary Care in the Nigerian Context

2.4.1 Human resources for health in Nigeria

Nigeria faces a severe **human resources for health (HRH)** crisis. The country has a doctor-to-population ratio far below the WHO minimum threshold of 1 per 1,000 population, with the shortfall even more acute in rural areas and northern states. Nursing and allied health professional shortages are equally significant. The principal drivers are inadequate training capacity, **brain drain** (emigration of trained professionals to the United Kingdom, United States, Canada, and Gulf states), and **maldistribution** (concentration of available professionals in urban tertiary facilities while rural communities go unserved).

The HRH crisis has direct implications for interdisciplinary care: a team cannot be interdisciplinary if the required disciplines are not present. In many rural and secondary facilities, the only available professional may be a community health officer or a single nurse. In this context, the **task-shifting** model, in which clinical tasks are delegated to less specialised cadres with appropriate training and supervision, provides a practical approach to delivering interdisciplinary-style care with the available workforce. The CHEW cadre in Nigeria is a key example: CHEWs provide a range of clinical services at the community level that would otherwise go undelivered.

Fill in the blank: _____ is the delegation of clinical tasks to less specialised cadres with appropriate training and supervision, used in resource-limited settings to extend care when fully qualified professionals are unavailable.

2.4.2 Interdisciplinary care in primary, secondary, and tertiary settings

At the **primary care level** in Nigeria, interdisciplinary care is delivered through networks of primary health centres staffed by CHEWs, community health officers, nurses, and visiting physicians under the ward health system. The Bamako Initiative and more recently the Basic Health Care Provision Fund (BHCPF) provide frameworks for structured primary care delivery. At the **secondary level**, district hospitals and general hospitals are expected to provide a broader

range of interdisciplinary services, including laboratory, pharmacy, nursing, and medical care, though staffing gaps frequently limit this in practice.

At the **tertiary level**, teaching hospitals and federal medical centres provide the most developed interdisciplinary team structures in Nigeria, including formal multidisciplinary tumour boards, stroke teams, intensive care units with specialist nursing and pharmacy, and structured ward round protocols. However, even at this level, team integration often falls short of the interdisciplinary ideal: ward rounds are frequently physician-led exercises in which nurses, pharmacists, and therapists are present but do not actively contribute. Changing this requires institutional commitment to the interdisciplinary model and clinical leadership that explicitly invites and values the contribution of all team members.

Fill in the blank: At the _____ level in Nigeria, teaching hospitals provide the most developed interdisciplinary team structures, including tumour boards, stroke teams, and ICU specialist staffing.

2.4.3 Policy frameworks supporting interdisciplinary healthcare in Nigeria

Several Nigerian policy instruments provide the framework for interdisciplinary healthcare delivery. The **National Health Act 2014** establishes the right of Nigerians to basic healthcare and creates the Basic Health Care Provision Fund to finance primary care. The **National Health Policy** articulates a vision of a health system in which all cadres of health professionals work together toward universal health coverage. Professional councils including the MDCN, Nursing and Midwifery Council of Nigeria (NMCN), Pharmacists Council of Nigeria (PCN), and the Medical Laboratory Science Council of Nigeria (MLSCN) collectively regulate the workforce that constitutes interdisciplinary teams.

The **Integrated Disease Surveillance and Response (IDSR)** system provides a framework for interdisciplinary public health action at the national level. At the facility level, policies such as the **Standard Treatment Guidelines** and **Essential Medicines List** create common reference points that support interdisciplinary prescribing and medication management. Despite these frameworks, implementation remains uneven: policy ambition frequently exceeds operational

capacity, and the gap between what the policy says should happen and what actually happens at the facility level remains a defining challenge of Nigerian health system strengthening.

Fill in the blank: The _____ Health Act 2014 establishes the right of Nigerians to basic healthcare and creates the Basic Health Care Provision Fund to finance primary care delivery.

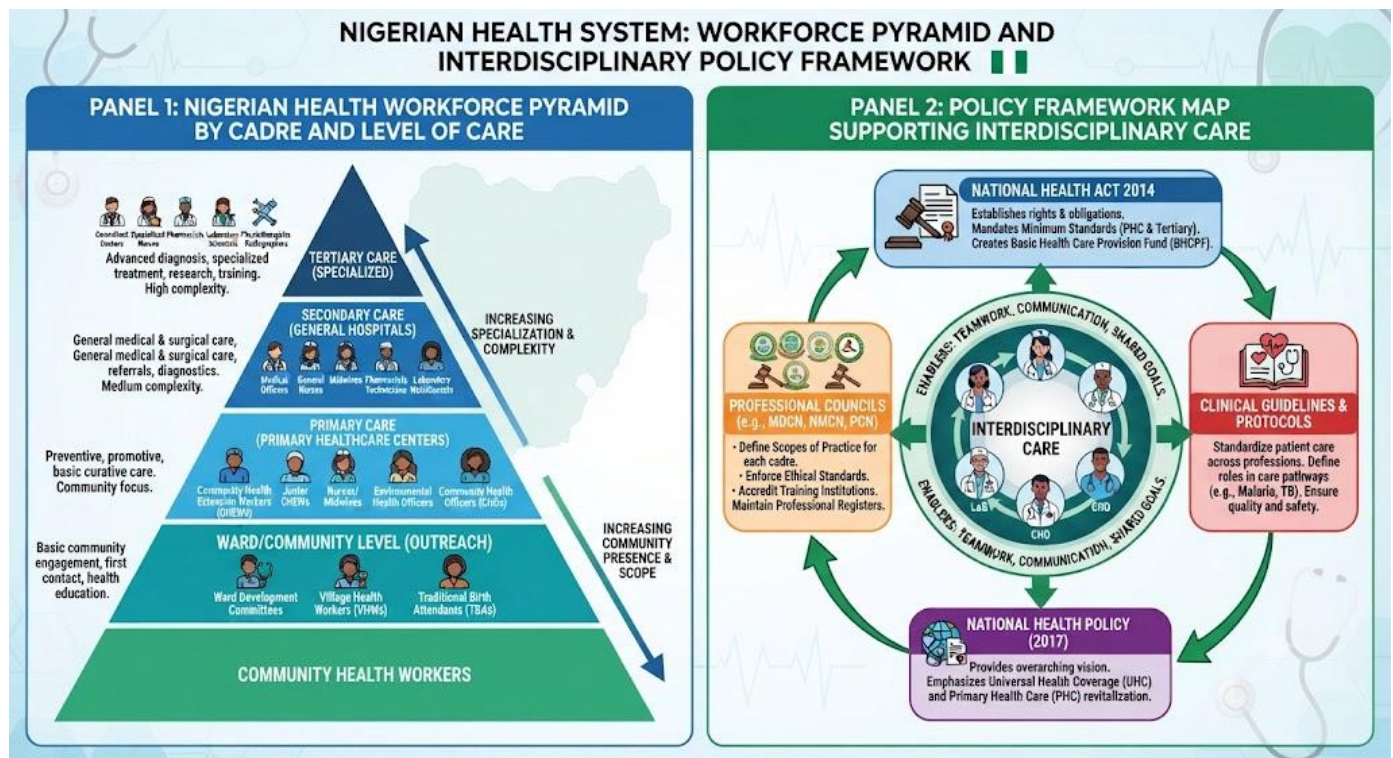


Figure 2.4: Interdisciplinary care in Nigeria: human resources and policy context

Pilot questions 2.4

1. Name two drivers of the human resources for health crisis in Nigeria.
2. What is task-shifting and when is it used?
3. Name the three levels of the Nigerian health system and describe the interdisciplinary team at each.
4. Name two Nigerian policy instruments that support interdisciplinary healthcare delivery.
5. What gap commonly exists between Nigerian health policy and facility-level practice?

Series Summary

This Series examined the principles, structures, and contexts of interdisciplinary healthcare delivery. Interdisciplinary care was distinguished from multidisciplinary and transdisciplinary models by its requirement for shared goals, integrated care planning, and mutual accountability. The interdisciplinary team was described through the roles of its core members, the communication tools that enable collaboration, and the leadership principles that draw on the expertise of all team members. Barriers including professional hierarchy, role ambiguity, and structural constraints were examined alongside the enablers of psychological safety, goal clarity, and interprofessional education.

Conflict resolution through the Thomas-Kilmann framework was presented as a skill that transforms inevitable team disagreements into better decisions. The Nigerian context was examined through the HRH crisis and its implications for team composition, the role of task-shifting and CHEWs in extending care, and the policy frameworks that provide the structure for interdisciplinary delivery across primary, secondary, and tertiary levels. By completing this Series, you should be able to apply these principles to analyse and improve team functioning in any healthcare setting (SLOs 2.1 to 2.6).

Glossary of Terms

- **Brain drain:** the emigration of trained healthcare professionals to other countries, depleting the domestic health workforce.
- **CHEW (Community Health Extension Worker):** a cadre of frontline health workers providing primary care services at the community level in Nigeria.
- **Interdisciplinary healthcare:** a model in which professionals from different disciplines work together with shared goals, integrated care plans, and mutual accountability.
- **Maldistribution:** the uneven geographic distribution of health professionals, with concentration in urban areas and shortages in rural communities.

- **Multidisciplinary model:** a care model in which different professionals assess and treat the patient separately, communicating through reports rather than joint planning.
- **Psychological safety:** the shared belief that team members can speak up, question decisions, and raise concerns without fear of punishment or ridicule.
- **Shared care plan:** the central document of interdisciplinary care, recording agreed goals, responsibilities, planned interventions, and review timelines.
- **Situational leadership:** the principle that the person best placed to lead at any moment is the one with the most relevant expertise for the immediate need.
- **Task-shifting:** the delegation of clinical tasks to less specialised cadres with appropriate training and supervision in resource-limited settings.
- **Transdisciplinary model:** a care model in which professionals deliberately share knowledge across disciplinary boundaries, enabling flexible role delivery under supervision.

Concept Check Questions [Series 2]

Objective questions

1. _____ healthcare requires professionals from different disciplines to work together with shared goals and integrated care planning. (Linked to SLO 2.1)
2. In the interdisciplinary model, the central document recording goals, responsibilities, and review timelines is called the shared _____ plan. (Linked to SLO 2.3)
3. _____ safety is the shared belief that team members can speak up without fear of punishment, and is the strongest predictor of team performance. (Linked to SLO 2.4)
4. In the Thomas-Kilmann model, the _____ mode seeks a solution that satisfies all parties and is most appropriate for patient care decisions. (Linked to SLO 2.5)
5. _____ is the delegation of clinical tasks to less specialised cadres when fully qualified professionals are unavailable. (Linked to SLO 2.6)
6. The _____ Health Act 2014 establishes the right of Nigerians to basic healthcare and funds primary care through the BHCPF. (Linked to SLO 2.6)

Short-answer questions

7. Distinguish between multidisciplinary, interdisciplinary, and transdisciplinary models of care. (Linked to SLO 2.1)
8. Name three barriers and three enablers of effective interdisciplinary collaboration. (Linked to SLO 2.4)
9. Explain the HRH crisis in Nigeria and describe how task-shifting and CHEWs address it. (Linked to SLO 2.6)

Long-answer questions

10. Discuss the composition and functioning of an interdisciplinary healthcare team, covering roles, communication, leadership, and decision-making. (Linked to SLOs 2.2, 2.3)

11. Discuss the barriers and enablers of effective interdisciplinary care in Nigeria, including the conflict resolution principles and the policy context. (Linked to SLOs 2.4, 2.5, 2.6)

Answers to Concept Check Questions [Series 2]

Objective questions

1. Interdisciplinary.
2. Care.
3. Psychological.
4. Collaborating.
5. Task-shifting.
6. National.

Short-answer questions

7. Multidisciplinary: each profession retains separate goals and communicates through reports. Interdisciplinary: shared goals, integrated care plans, joint review.
Transdisciplinary: professionals share knowledge across boundaries and deliver components of other disciplines care under supervision.
8. Three barriers: professional hierarchy, role ambiguity, poor communication. Three enablers: psychological safety, clear goal-setting, regular structured team meetings.
9. Nigeria has a severe shortage of health professionals relative to population, worsened by brain drain and maldistribution. Task-shifting delegates clinical tasks to less specialised cadres with training and supervision. CHEWs deliver a range of primary care services at community level where physicians and nurses are unavailable, extending the functional reach of the health system.

Long-answer questions

10. Basic response

Core team members: physician (diagnosis and medical management), nurse (monitoring and medication), pharmacist (medication review), physiotherapist (rehabilitation), social worker (discharge and social determinants). Role clarity prevents duplication and gaps. Communication: SBAR for handovers and referrals; shared care plan documents goals and responsibilities. Leadership is situational: the most relevant expert leads at each moment. Decision-making is consensual where possible; urgent decisions made by available clinician must be communicated and reviewed.

10. Value-added response

The shared care plan is the operational heart of interdisciplinary care. Without it, even well-intentioned team members work from different assumptions about goals and priorities. Teams that invest in maintaining an accurate, contemporaneous, and accessible shared care plan consistently outperform those that rely on verbal communication alone, particularly during shift changes and handovers.

11. Basic response

Barriers: professional hierarchy (prevents junior disciplines from speaking up), role ambiguity (creates duplication and gaps), workforce shortages in Nigeria (absence of disciplines needed for the team), pay disparities (generate resentment), structural barriers (no protected team meeting time, incompatible documentation systems). Enablers: psychological safety (senior clinicians model intellectual humility), interprofessional education, clear goals, regular meetings, explicit valuation of all team members. Conflict: Thomas-Kilmann modes; collaborating and compromising most appropriate; escalate when unresolved. Nigerian policy: National Health Act 2014, Standard Treatment Guidelines, professional councils; implementation gap remains the defining challenge.

11. Value-added response

In Nigeria, the most impactful change available to individual clinicians within existing resources is to create psychological safety in their immediate team: inviting input from nurses, pharmacists, and CHEWs, and responding to their contributions with genuine engagement rather than token acknowledgment. This costs nothing and requires no policy change; it depends entirely on the professional culture modelled by senior clinicians.

Answers to Pilot Questions [Series 2]

Part 2.1

1. A model of care in which professionals from different disciplines work together with shared patient-centred goals, integrating knowledge, skills, and decision-making.
2. In the interdisciplinary model, professionals share goals and develop integrated care plans; in the multidisciplinary model, each profession retains its own goals and communicates mainly through written reports.
3. Any one of: oncology, rehabilitation, palliative care, or chronic disease management in primary care.
4. A model in which professionals deliberately share knowledge across disciplinary boundaries, enabling any team member to deliver components of another discipline care under supervision; used in community health and global health settings with workforce shortages.
5. Any two of: reduced hospital readmissions, improved medication safety, increased patient satisfaction, shorter rehabilitation time, better chronic disease management.

Part 2.2

1. Any four from: physician (medical management and diagnosis), nurse (continuous monitoring, medication administration), pharmacist (medication review, drug interaction

checking), physiotherapist (rehabilitation and mobility), social worker (discharge planning, community support).

2. SBAR (Situation, Background, Assessment, Recommendation) is a structured communication tool used during handovers and referrals to ensure critical patient information is transmitted accurately between team members.
3. The shared care plan is the central document of the interdisciplinary team; it contains agreed patient goals, the responsibilities of each team member, planned clinical interventions, and the timeline for review.
4. Situational leadership means the person best placed to lead at any given moment is the one with the most relevant expertise for the immediate clinical need, regardless of professional rank or seniority.
5. They should be communicated to all team members promptly, documented with the rationale, and reviewed at the next team meeting.

Part 2.3

1. Any three of: professional hierarchy, role ambiguity, poor communication, inadequate team meeting time, incompatible documentation systems, physical separation, workforce shortages, pay disparities.
2. Psychological safety is the shared belief that team members can speak up, question decisions, and raise concerns without fear of ridicule or punishment. It matters because it determines whether all team members contribute their expertise, and it is the strongest predictor of team performance.
3. Competing, accommodating, avoiding, collaborating, compromising.
4. Collaborating (seeking a solution satisfying all parties) and compromising (each party gives something).
5. Escalate to a senior clinician, clinical ethics committee, or hospital management; document the nature of the disagreement and the resolution reached.

Part 2.4

1. Any two of: inadequate training capacity, brain drain (emigration of trained professionals), maldistribution (concentration in urban areas).
2. Task-shifting is the delegation of clinical tasks to less specialised cadres with appropriate training and supervision; it is used in resource-limited settings where fully qualified professionals are unavailable.
3. Primary level: health centres staffed by CHEWs, community health officers, nurses, and visiting physicians. Secondary level: district hospitals with laboratory, pharmacy, nursing, and medical care, though staffing gaps are common. Tertiary level: teaching hospitals with the most developed interdisciplinary structures including tumour boards, stroke teams, and specialist ICU staffing.
4. Any two of: National Health Act 2014, National Health Policy, Standard Treatment Guidelines, Essential Medicines List, Integrated Disease Surveillance and Response system.
5. A gap between policy ambition and operational capacity: what the policy mandates frequently exceeds what is achievable at the facility level due to workforce shortages, funding gaps, and infrastructure deficits.

References and Attributions [Series 2]

Textual references

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Figures, Plates, Tables, and Boxes

- Figure 2.1: Comparison of multidisciplinary, interdisciplinary, and transdisciplinary models Attribution: AI generated using prompt "Generate a three-column comparison table of multidisciplinary, interdisciplinary, and transdisciplinary care models with rows for goal-setting, communication, role boundaries, care planning, and clinical context." Suggested OER search string: "multidisciplinary interdisciplinary transdisciplinary healthcare models comparison OER"
- Figure 2.2: Composition and communication in the interdisciplinary team Attribution: AI generated using prompt "Generate an interdisciplinary team wheel diagram with patient at centre, professional roles around the outside, bidirectional communication arrows, and a shared care plan template below." Suggested OER search string: "interdisciplinary healthcare team roles communication shared care plan patient-centred OER"
- Figure 2.3: Barriers, enablers, and conflict resolution in interdisciplinary teams Attribution: AI generated using prompt "Generate a three-panel diagram showing barriers, enablers, and Thomas-Kilmann conflict modes for interdisciplinary healthcare teams." Suggested OER search string: "interdisciplinary team barriers enablers psychological safety conflict resolution Thomas-Kilmann OER"

- Figure 2.4: Interdisciplinary care in Nigeria: human resources and policy context
Attribution: AI generated using prompt "Generate a two-panel diagram showing the Nigerian health workforce pyramid by cadre and level of care, and a policy framework map showing the National Health Act, professional councils, and clinical guidelines supporting interdisciplinary care." Suggested OER search string: "Nigeria health workforce HRH task-shifting CHEW National Health Act policy interdisciplinary OER"

Series 3: Roles of Healthcare Specialists

- **Part 3.1: Medical Specialists and Nursing**

- Sub Part 3.1.1: Role of the physician and specialist physicians
- Sub Part 3.1.2: Role of the nurse and advanced nursing practice
- Sub Part 3.1.3: Collaborative practice between medicine and nursing

- **Part 3.2: Allied Health Professionals**

- Sub Part 3.2.1: Pharmacy and pharmaceutical care
- Sub Part 3.2.2: Medical laboratory science and radiography
- Sub Part 3.2.3: Physiotherapy, occupational therapy, and speech therapy

- **Part 3.3: Community and Public Health Specialists**

- Sub Part 3.3.1: Community health workers and extension workers
- Sub Part 3.3.2: Public health physicians and epidemiologists
- Sub Part 3.3.3: Health information management and records officers

- **Part 3.4: Mental Health, Nutrition, and Critical Care Specialists**

- Sub Part 3.4.1: Psychiatrists, psychologists, and mental health nurses
- Sub Part 3.4.2: Dietitians, nutritionists, and food safety specialists
- Sub Part 3.4.3: Critical care medicine and the intensive care team

Introduction

A patient who arrives at a Nigerian teaching hospital with a severe road traffic injury does not receive care from one professional. They are assessed by an emergency physician, stabilised by a nurse, imaged by a radiographer, operated on by a surgeon with an anaesthetist, monitored in the ICU by critical care nurses and intensivists, rehabilitated by a physiotherapist, and counselled by a social worker before discharge. Each specialist plays a defined, irreplaceable role.

Understanding those roles is the foundation of effective interdisciplinary practice.

The aim of this Series is to describe the specific roles, scope of practice, and contributions of the major healthcare specialist groups in the Nigerian multidisciplinary healthcare system.

We shall commence with the physician and nursing roles and their collaborative interface. Next, we will examine the allied health professions including pharmacy, laboratory science, radiography, and the therapy specialties. Moving on, we will review community and public health specialists. Finally, we will close with the mental health, nutrition, and critical care specialists whose roles are increasingly essential in contemporary Nigerian healthcare.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 3.1** describe the roles of the physician and specialist physician and explain the scope of advanced nursing practice,
- **SLO 3.2** explain the roles of pharmacists, medical laboratory scientists, radiographers, physiotherapists, occupational therapists, and speech therapists,
- **SLO 3.3** describe the roles of community health workers, public health physicians, epidemiologists, and health information management officers,
- **SLO 3.4** explain the roles of psychiatrists, psychologists, mental health nurses, dietitians, nutritionists, and critical care specialists, and

- **SLO 3.5** describe how each specialist group contributes to the interdisciplinary care of a patient in the Nigerian healthcare setting.

3.1 Medical Specialists and Nursing

3.1.1 Role of the physician and specialist physicians

The **physician** is responsible for the overall medical assessment, differential diagnosis, investigation, and management of patients. In Nigeria, medical practice is regulated by the **Medical and Dental Council of Nigeria (MDCN)**, and physicians must be registered before they may practise. The **general practitioner (GP)** or family physician provides comprehensive primary care across all ages and conditions, managing undifferentiated presentations and coordinating referrals to specialists. Specialist physicians have completed additional postgraduate training in a defined field, such as internal medicine, surgery, paediatrics, obstetrics and gynaecology, or psychiatry.

In the interdisciplinary team, the physician typically provides the **medical diagnosis** and **prescribing authority** that other team members implement. However, effective physicians in interdisciplinary teams do not confine themselves to these functions; they also facilitate communication across the team, ensure that the medical perspective is integrated with the nursing, rehabilitation, and social care dimensions of the patient plan, and advocate for appropriate specialist referral when the patient needs exceed their own expertise.

Fill in the blank: In Nigeria, physicians must be registered with the _____ before they may practise, and specialist physicians have completed additional postgraduate training in a defined clinical field.

3.1.2 Role of the nurse and advanced nursing practice

The **nurse** is the healthcare professional with the most sustained and continuous contact with the hospitalised patient. Core nursing functions include patient assessment and monitoring,

medication administration, wound care, patient education, emotional support, and coordination of care across shifts. In Nigeria, nurses are regulated by the **Nursing and Midwifery Council of Nigeria (NMCN)** and may practise as registered nurses, midwives, or both. The **community health nurse** extends nursing care into homes and primary care settings, providing immunisation, antenatal care, family planning, and health promotion.

Advanced nursing practice refers to extended roles undertaken by nurses with additional postgraduate training, including nurse practitioners who take clinical histories, perform examinations, and initiate treatment; clinical nurse specialists who provide expert nursing care in specific fields such as oncology or diabetes; and nurse anaesthetists who administer anaesthesia in some settings. While advanced nursing practice is more developed in high-income countries, Nigeria is increasingly recognising extended nursing roles, particularly in primary care settings where physician availability is limited.

Fill in the blank: In Nigeria, nurses are regulated by the Nursing and Midwifery Council of _____, and advanced practice nurses may take histories, perform examinations, and initiate treatment in extended clinical roles.

3.1.3 Collaborative practice between medicine and nursing

The physician-nurse relationship is the most clinically significant professional interface in inpatient care. When it functions well, physicians and nurses communicate frequently, share clinical observations, and make joint decisions that draw on each other expertise. The nurse who monitors a patient continuously is often the first to detect deterioration; the physician who is informed promptly can intervene before the situation becomes critical. This early warning function of nursing is a primary patient safety mechanism in every hospital ward.

Barriers to effective physician-nurse collaboration include professional hierarchy (nurses may hesitate to challenge a physician decision), communication failures (information not documented or transmitted between shifts), and workload imbalances (nurses managing too many patients to observe each carefully). Structured communication tools such as SBAR, regular interdisciplinary ward rounds, and explicit clinical leadership that invites nursing input all improve this

relationship. In Nigeria, where nurse-to-patient ratios in public hospitals frequently exceed safe levels, system-level advocacy for adequate nursing staffing is itself a patient safety obligation.

Fill in the blank: The _____ function of nursing, in which nurses are the first to detect patient deterioration due to their continuous monitoring role, is a primary patient safety mechanism in inpatient care.

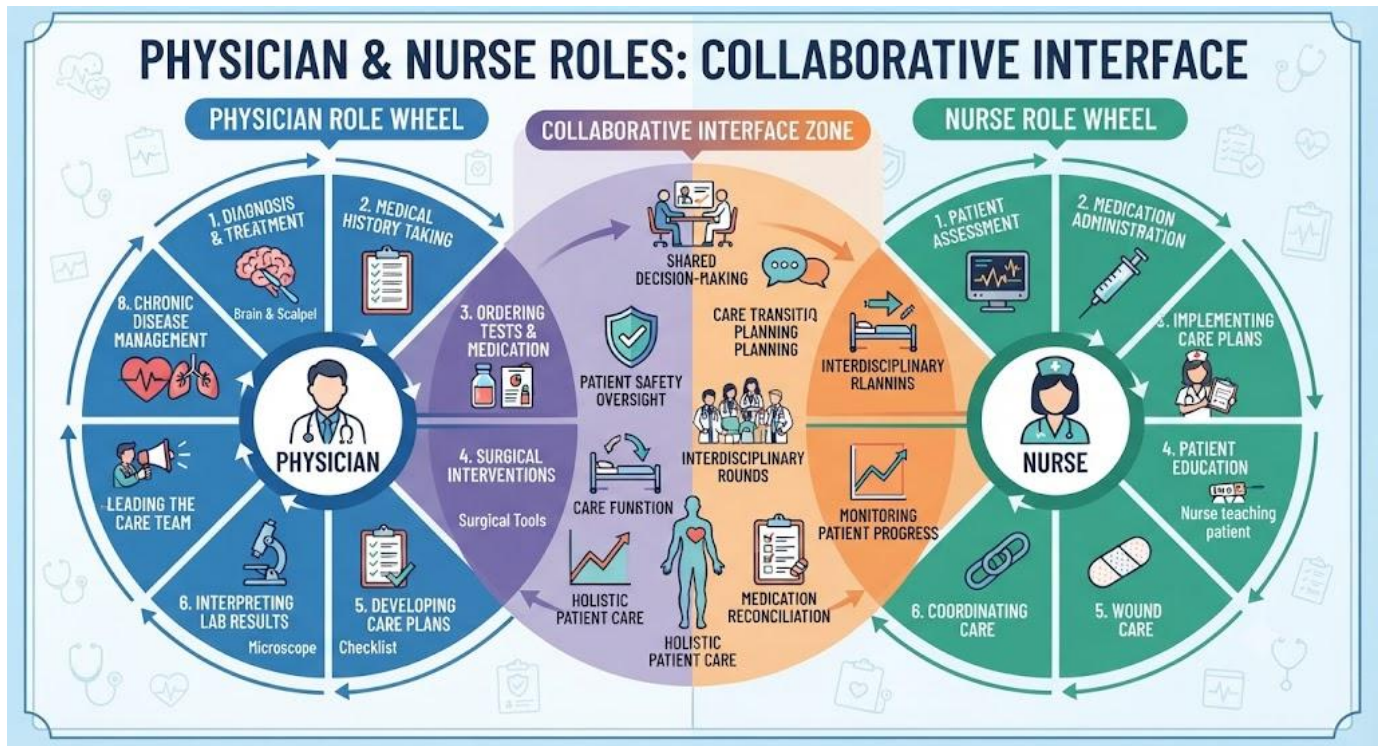


Figure 3.1: Roles of the physician and nurse in interdisciplinary care

Pilot questions 3.1

1. Name two specialist physician disciplines and state the focus of each.
2. Name three core nursing functions.
3. What is advanced nursing practice?
4. What is the early warning function of nursing?
5. Name two barriers to effective physician-nurse collaboration.

3.2 Allied Health Professionals

3.2.1 Pharmacy and pharmaceutical care

The **pharmacist** is responsible for the safe, effective, and rational use of medicines. In the interdisciplinary team, the pharmacist reviews prescriptions for accuracy and appropriateness, checks for drug-drug and drug-disease interactions, counsels patients on how to take their medications correctly, and monitors for adverse drug reactions. In Nigeria, pharmacy practice is regulated by the **Pharmacists Council of Nigeria (PCN)** and spans community pharmacy, hospital pharmacy, industrial pharmacy, and clinical pharmacy specialties.

Clinical pharmacy is the most direct contribution of the pharmacist to patient care: the clinical pharmacist attends ward rounds, participates in prescribing decisions, and provides medication reconciliation at admission and discharge to identify discrepancies that could cause harm. Studies consistently show that pharmacist involvement in interdisciplinary teams reduces prescribing errors, adverse drug events, and medication costs. In Nigeria, clinical pharmacy is an evolving specialty; its broader adoption in teaching hospitals and secondary facilities would significantly improve medication safety.

Fill in the blank: _____ pharmacy involves the pharmacist attending ward rounds, participating in prescribing decisions, and providing medication reconciliation to reduce prescribing errors and adverse drug events.

3.2.2 Medical laboratory science and radiography

The **medical laboratory scientist (MLS)** performs diagnostic tests on biological specimens including blood, urine, tissue, and microbiological samples, producing the results that guide clinical decisions. Laboratory scientists are regulated by the **Medical Laboratory Science Council of Nigeria (MLSCN)** and may specialise in haematology, chemical pathology, medical microbiology, histopathology, or blood transfusion science. The timeliness and accuracy of laboratory results directly affect clinical outcomes: a delayed malaria diagnosis in a child with cerebral malaria, or an incorrect blood group result in a patient requiring transfusion, may be fatal.

The **radiographer** performs diagnostic imaging including plain radiography, ultrasound, CT, MRI, and fluoroscopy, and may also administer radiotherapy in oncology settings.

Radiographers are regulated by the **Radiographers Registration Board of Nigeria (RRBN)**.

The radiologist (a specialist physician) interprets imaging reports, but in many Nigerian settings where radiologists are scarce, radiographers perform and report basic imaging studies. In interdisciplinary care, rapid and accurate imaging results are often critical for surgical, medical, and emergency management decisions.

Fill in the blank: The Medical Laboratory Science Council of Nigeria regulates laboratory scientists, while the _____ Registration Board of Nigeria regulates radiographers who perform diagnostic imaging.

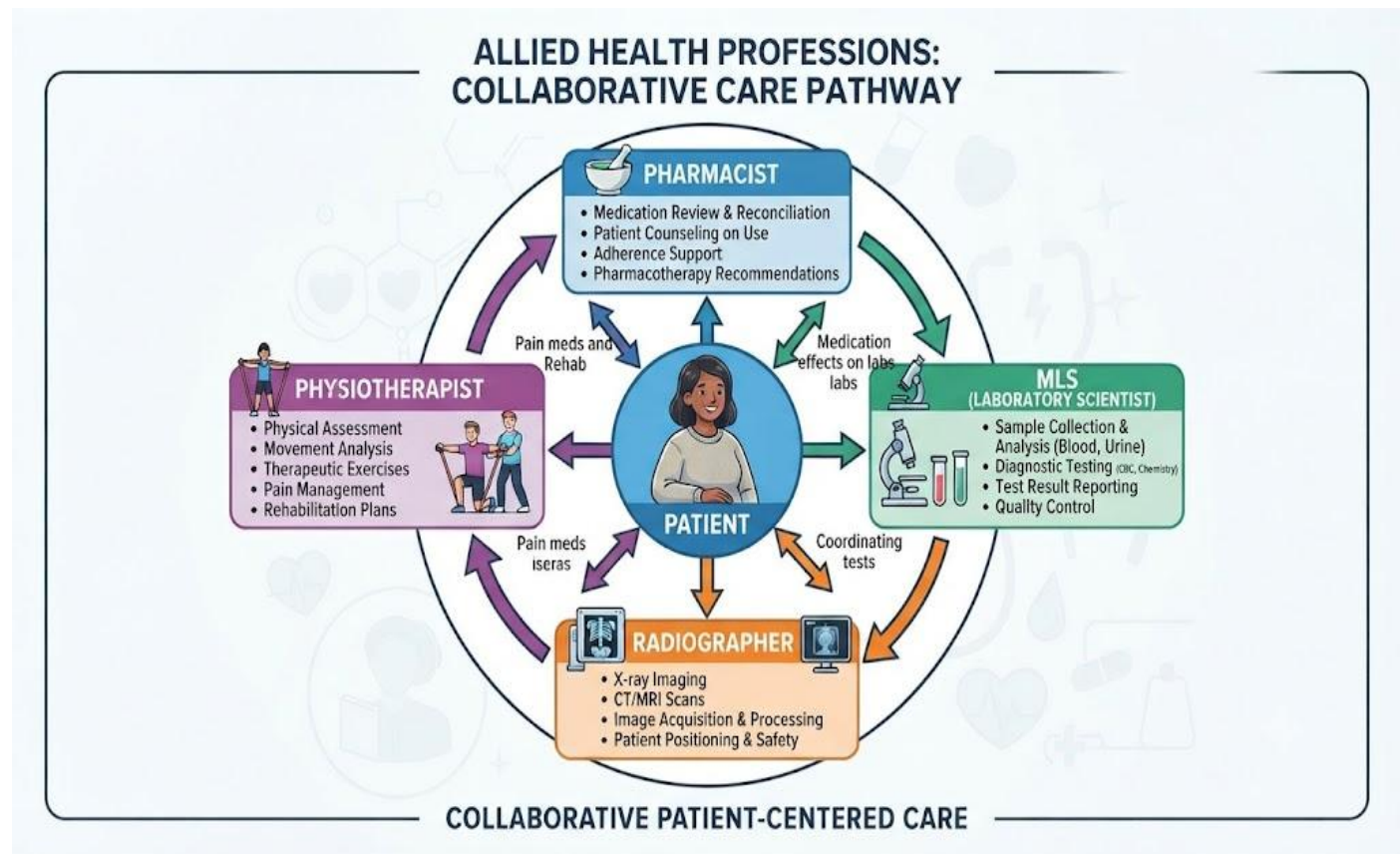


Figure 3.2: Allied health professional roles in interdisciplinary care

3.2.3 Physiotherapy, occupational therapy, and speech therapy

Physiotherapists assess and treat movement, function, and physical rehabilitation. They manage musculoskeletal injuries, neurological conditions, respiratory physiotherapy in ICU patients, and post-surgical rehabilitation. In Nigeria, physiotherapy is regulated by the **Medical Rehabilitation Therapists Board of Nigeria (MRTBN)**. **Occupational therapists (OTs)** focus on enabling patients to perform the activities of daily living; they assess functional capacity and provide adaptive equipment, environmental modification, and skills training to support independence after illness, injury, or disability.

Speech and language therapists assess and treat disorders of communication (speech, language, voice) and swallowing. Swallowing assessment is particularly critical in stroke patients, where undetected dysphagia leads to aspiration pneumonia, a major cause of post-stroke mortality. In the Nigerian context, the availability of OTs and speech therapists is limited largely to tertiary facilities; rehabilitation services are among the most under-resourced in the health system, creating a significant gap between rehabilitation need and provision, particularly in patients with stroke, traumatic brain injury, and cerebral palsy.

Fill in the blank: _____ and language therapists assess and treat communication disorders and swallowing problems; undetected dysphagia in stroke patients can cause aspiration pneumonia, a major cause of post-stroke mortality.

Pilot questions 3.2

1. Name two functions of the clinical pharmacist in the interdisciplinary team.
2. Name two specialist areas of medical laboratory science.
3. What does a radiographer do?
4. What is the role of the occupational therapist?
5. Why is speech therapy particularly important in stroke patients?

3.3 Community and Public Health Specialists

3.3.1 Community health workers and extension workers

Community health workers (CHWs) are lay members of the community trained to provide basic health education, disease prevention, and first-level health services within their communities. They serve as the critical link between the formal health system and populations that face geographic, financial, or cultural barriers to facility-based care. In Nigeria, the formal equivalent is the **community health extension worker (CHEW)**, a trained cadre regulated under the Community Health Practitioners Registration Board of Nigeria (CHPRBN). CHEWs provide immunisation, antenatal care, family planning, oral rehydration therapy, malaria case management, and health education at primary health centres and community outposts.

The contribution of CHEWs to the Nigerian health system is substantial and often underappreciated. In communities where physicians, nurses, and laboratory scientists are absent, the CHEW is the entire formal health system. Their effectiveness depends on adequate training, regular supervision, reliable supplies, and integration into the broader health system through clear referral pathways. When CHEWs are supported and supervised effectively, they extend the reach of the health system at a fraction of the cost of facility-based care.

Fill in the blank: In Nigeria, the community health extension worker (CHEW) is regulated by the Community Health Practitioners _____ Board of Nigeria and provides primary care services at health centres and community outposts.

3.3.2 Public health physicians and epidemiologists

Public health physicians are specialist physicians with postgraduate training in preventive medicine and public health. Their role is population-level: designing and implementing disease prevention programmes, evaluating health interventions, advising on health policy, and leading the health system response to outbreaks and public health emergencies. In Nigeria, the **Nigeria Centre for Disease Control (NCDC)** coordinates public health surveillance and outbreak response, drawing on epidemiologists trained in field epidemiology through the **Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP)**.

Epidemiologists study the distribution and determinants of disease in populations, generating the evidence that guides prevention, control, and policy decisions. In the interdisciplinary context, the epidemiologist and public health physician contribute a population perspective to clinical care: understanding the local burden of disease, resistance patterns, and community health risks helps clinical teams provide contextually appropriate care. During the COVID-19 pandemic and Lassa fever outbreaks, the collaboration between epidemiologists, clinicians, laboratory scientists, and community health workers demonstrated the power of interdisciplinary public health response.

Fill in the blank: The _____ Centre for Disease Control coordinates public health surveillance and outbreak response in Nigeria, drawing on field epidemiologists trained through the NFELTP.

3.3.3 Health information management and records officers

Health information management (HIM) officers are responsible for the collection, storage, retrieval, and analysis of health data. They manage patient medical records, ensure the accuracy and completeness of clinical documentation, code diagnoses using ICD-10, and generate the statistical reports that inform health system planning and resource allocation. In Nigeria, HIM officers are regulated by the **Health Records Officers Registration Board of Nigeria (HRORBN)**. Their work is the data infrastructure on which evidence-based health management depends.

In the digital health era, HIM officers increasingly manage electronic health records, health information exchange systems, and clinical data quality assurance. Their role in interdisciplinary care is often invisible to clinicians but foundational: the shared care plan, the discharge summary, the referral letter, and the investigation report all depend on a functioning health information system. Poor health records management has direct patient safety consequences: missing allergy information, incomplete medication lists, and unavailable previous investigation results all increase the risk of clinical error.

Fill in the blank: Health information management officers code diagnoses using _____ -10 and manage the patient records and statistical systems on which health planning and clinical safety depend.

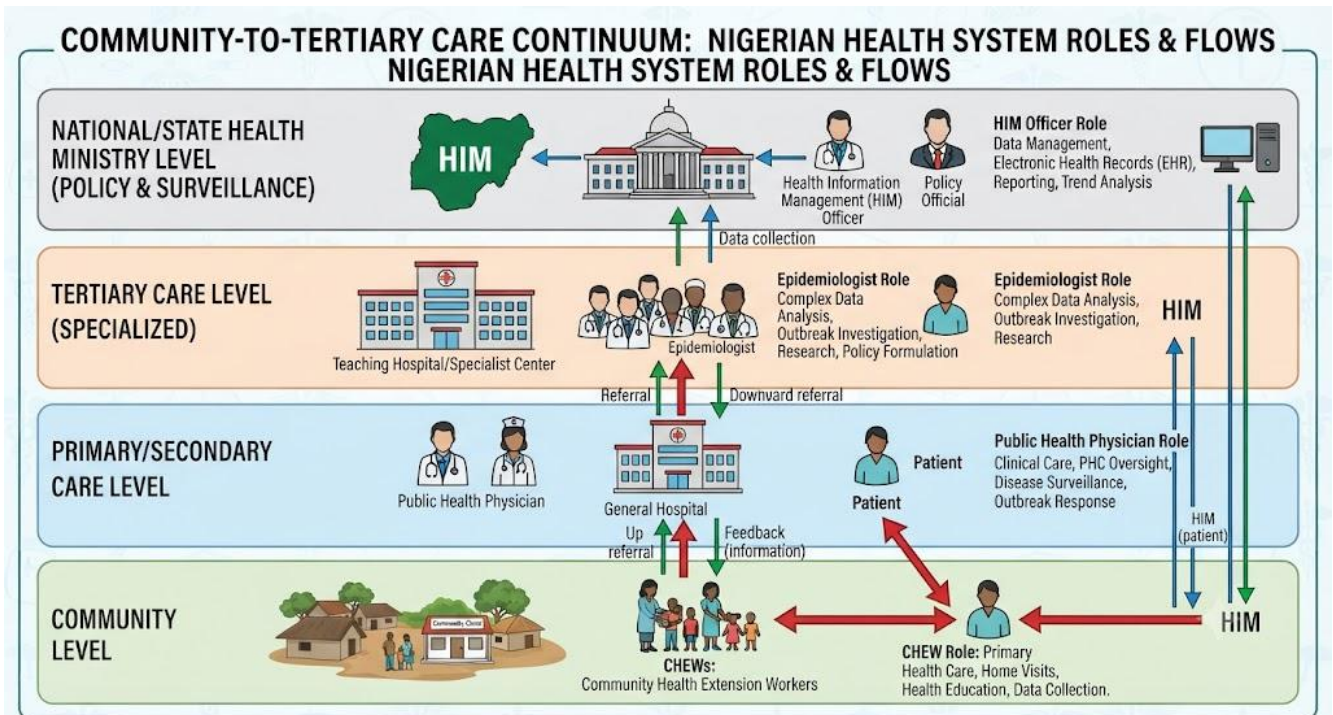


Figure 3.3: Community and public health specialist roles

Pilot questions 3.3

1. What is the role of the CHEW in the Nigerian health system?
2. Name two services CHEWs provide at primary health centres.
3. What does a public health physician do?
4. What does the NCDC do?
5. Name two patient safety consequences of poor health records management.

3.4 Mental Health, Nutrition, and Critical Care Specialists

3.4.1 Psychiatrists, psychologists, and mental health nurses

Psychiatrists are specialist physicians who diagnose and treat mental disorders using biological, psychological, and social interventions. They are the only mental health professionals in Nigeria authorised to prescribe psychotropic medications. **Psychologists** hold graduate or postgraduate degrees in psychology and provide psychological assessment, psychotherapy, and behavioural interventions; they do not prescribe medication. **Mental health nurses** provide nursing care specifically for patients with mental illness, including administering medication, monitoring mental state, managing challenging behaviour, and providing therapeutic communication within inpatient and community mental health settings.

Mental health remains among the most neglected sectors of the Nigerian health system. The treatment gap, the proportion of people with mental illness who do not receive any treatment, exceeds 90% in Nigeria. Stigma, inadequate mental health facilities, severe shortage of psychiatrists and psychologists, and a legal framework (the Lunacy Act 1916) that remained unreformed until the Mental Health Act 2021 have all contributed to this gap. In the interdisciplinary context, recognising and addressing the psychological dimensions of physical illness, including depression in chronic disease, anxiety in cancer, and cognitive impairment in older adults, is a shared responsibility across all clinical specialties.

Fill in the blank: In Nigeria, the treatment _____ for mental illness exceeds 90%, meaning the vast majority of people with mental disorders receive no formal treatment.

3.4.2 Dietitians, nutritionists, and food safety specialists

Dietitians are regulated health professionals trained to assess nutritional status and provide medical nutrition therapy for specific clinical conditions. They manage the nutritional care of patients with diabetes, renal disease, liver disease, malnutrition, eating disorders, and patients requiring enteral or parenteral nutrition. **Nutritionists** work more broadly in public health nutrition, food policy, and community nutrition programmes, including the management of

malnutrition at the population level. In Nigeria, both are regulated by the **Dietitians Association of Nigeria** and the **Nutrition Society of Nigeria** respectively.

Nigeria carries a double burden of malnutrition: acute and chronic undernutrition in children, particularly in the north, coexists with rising rates of obesity, diabetes, and cardiovascular disease driven by dietary transition in urban populations. Dietitians and nutritionists contribute to interdisciplinary teams by providing nutritional screening at admission, recommending appropriate feeding routes and formulas for ill patients, managing the nutritional complications of disease and treatment, and educating patients and families on dietary modification. **Food safety specialists** operate at the regulatory level, ensuring food products are safe for consumption, particularly in institutional settings such as hospitals and schools.

Fill in the blank: Nigeria carries a double burden of malnutrition, combining childhood _____ in rural areas with rising rates of obesity and diet-related non-communicable diseases in urban populations.

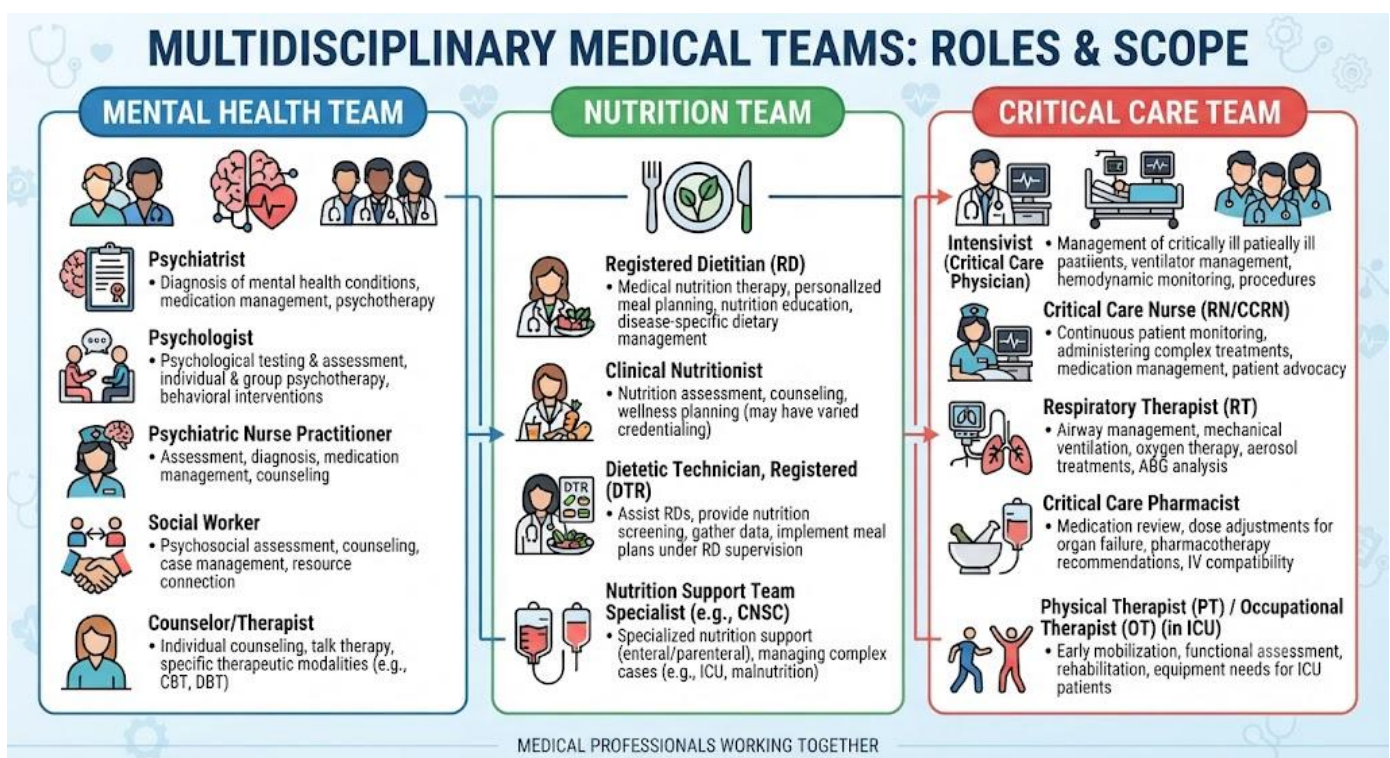


Figure 3.4: Mental health, nutrition, and critical care specialist roles

3.4.3 Critical care medicine and the intensive care team

Critical care medicine is the specialty concerned with the diagnosis and management of life-threatening conditions requiring intensive monitoring and organ support. The **intensivist** is a specialist physician (typically with training in anaesthesia, internal medicine, or emergency medicine) who leads the ICU team. **Critical care nurses** provide one-to-one or one-to-two patient nursing, performing continuous physiological monitoring, ventilator management, invasive line care, and complex medication administration. The ICU team also typically includes a clinical pharmacist, a respiratory therapist, a physiotherapist for early mobilisation, and a dietitian for nutritional support.

Critical care is among the most resource-intensive environments in healthcare and among the most dependent on effective interdisciplinary teamwork. Communication failures in the ICU have been identified as a leading cause of adverse events. **Daily ICU rounds** conducted as structured interdisciplinary discussions, in which nursing, pharmacy, respiratory therapy, and medical perspectives are all incorporated, consistently improve patient outcomes compared with physician-led rounds alone. In Nigeria, ICU availability is concentrated in tertiary hospitals, and the shortage of both intensivists and critical care nurses represents a significant gap in the capacity to manage critically ill patients across the country.

Fill in the blank: The _____ is a specialist physician who leads the ICU team, typically trained in anaesthesia, internal medicine, or emergency medicine, and responsible for managing life-threatening conditions requiring intensive organ support.

Pilot questions 3.4

1. Name the three main mental health professionals and state one unique function of each.
2. What does the treatment gap in mental health mean in Nigeria?
3. Distinguish between the roles of a dietitian and a nutritionist.
4. Name four members of the critical care team.
5. What are structured interdisciplinary ICU rounds and why do they improve outcomes?

Series Summary

This Series described the roles, scope of practice, and interdisciplinary contributions of the major healthcare specialist groups. The physician and nurse were examined as the core clinical partnership of inpatient care, with the early warning function of nursing and the collaborative interface between the two disciplines highlighted as key patient safety mechanisms. Allied health professionals including pharmacists, laboratory scientists, radiographers, physiotherapists, occupational therapists, and speech therapists each contribute defined and irreplaceable functions to the interdisciplinary team.

Community and public health specialists, including CHEWs, public health physicians, epidemiologists, and HIM officers, operate across the full spectrum from individual patient care to population health. Mental health, nutrition, and critical care specialists address dimensions of patient wellbeing that are frequently neglected in resource-limited systems. By understanding what each specialist contributes, you are better placed to collaborate effectively, make appropriate referrals, and advocate for the full interdisciplinary team your patients need (SLOs 3.1 to 3.5).

Glossary of Terms

- **Advanced nursing practice:** extended nursing roles requiring additional postgraduate training, including nurse practitioners, clinical nurse specialists, and nurse anaesthetists.
- **CHEW (Community Health Extension Worker):** a trained Nigerian health cadre providing primary care services at community level, regulated by the CHPRBN.
- **Clinical pharmacy:** the direct patient care role of the pharmacist, involving ward rounds, prescribing participation, medication reconciliation, and adverse drug reaction monitoring.
- **Epidemiologist:** a specialist in the study of disease distribution and determinants in populations, generating evidence for prevention and control.

- **Health information management (HIM) officer:** a professional responsible for the collection, storage, retrieval, coding, and analysis of health data and patient records.
- **Intensivist:** a specialist physician who leads the ICU team, managing life-threatening conditions requiring intensive monitoring and organ support.
- **Medical laboratory scientist (MLS):** a professional who performs diagnostic tests on biological specimens, regulated by the MLSCN in Nigeria.
- **Occupational therapist (OT):** a rehabilitation professional who enables patients to perform activities of daily living through assessment, adaptive equipment, and skills training.
- **Psychiatrist:** a specialist physician who diagnoses and treats mental disorders and is the only mental health professional authorised to prescribe psychotropic medication in Nigeria.
- **Treatment gap:** the proportion of people with a condition who do not receive any formal treatment; exceeds 90% for mental illness in Nigeria.

Concept Check Questions [Series 3]

Objective questions

1. In Nigeria, physicians are regulated by the Medical and Dental Council of _____.
(Linked to SLO 3.1)
2. The _____ function of nursing refers to the nurse role in detecting early patient deterioration through continuous monitoring. (Linked to SLO 3.1)
3. _____ pharmacy involves the pharmacist attending ward rounds and participating in prescribing decisions. (Linked to SLO 3.2)
4. Radiographers in Nigeria are regulated by the Radiographers _____ Board of Nigeria. (Linked to SLO 3.2)
5. The treatment _____ for mental illness in Nigeria exceeds 90%. (Linked to SLO 3.4)
6. The _____ leads the ICU team and manages life-threatening conditions requiring intensive organ support. (Linked to SLO 3.4)

Short-answer questions

7. Describe the roles of the pharmacist, medical laboratory scientist, and radiographer in the interdisciplinary team. (Linked to SLO 3.2)
8. Explain the role of the CHEW in the Nigerian health system and describe two conditions that affect their effectiveness. (Linked to SLO 3.3)
9. Describe the composition of the ICU team and explain why structured interdisciplinary rounds improve outcomes. (Linked to SLO 3.4)

Long-answer questions

10. Discuss the roles of physicians, nurses, and allied health professionals in multidisciplinary healthcare, covering their individual functions and their collaborative interfaces. (Linked to SLOs 3.1, 3.2)

11. Discuss the roles of community health, public health, mental health, and nutrition specialists in the Nigerian health system and explain how they contribute to interdisciplinary care. (Linked to SLOs 3.3, 3.4, 3.5)

Answers to Concept Check Questions [Series 3]

Objective questions

1. Nigeria.
2. Early warning.
3. Clinical.
4. Registration.
5. Gap.
6. Intensivist.

Short-answer questions

7. Pharmacist: reviews prescriptions for accuracy and interactions, counsels patients on medication use, performs medication reconciliation, monitors for adverse reactions. Medical laboratory scientist: performs diagnostic tests on blood, urine, tissue, and microbiological specimens; results guide clinical decisions. Radiographer: performs diagnostic imaging (plain X-ray, ultrasound, CT, MRI) and may report basic studies in the absence of a radiologist.
8. CHEWs provide primary care services at community level including immunisation, antenatal care, family planning, oral rehydration, malaria case management, and health education. Two conditions affecting their effectiveness: adequate training and regular supervision (without which clinical quality deteriorates); reliable supply of medicines and equipment (without which services cannot be delivered).
9. ICU team: intensivist (specialist physician), critical care nurses (one-to-one or one-to-two patient ratio), clinical pharmacist, respiratory therapist, physiotherapist, and dietitian. Structured interdisciplinary rounds improve outcomes because they incorporate nursing,

pharmacy, therapy, and medical perspectives into a shared daily plan, reducing the communication failures that are a leading cause of ICU adverse events.

Long-answer questions

10. Basic response

Physician: overall medical diagnosis and management, prescribing authority, referral coordination, team facilitation. Specialist physicians add depth in defined fields. Nurse: continuous monitoring (early warning function), medication administration, wound care, patient education, care coordination across shifts; advanced practice nurses extend to assessment, diagnosis, and treatment initiation. Physician-nurse collaboration: most significant clinical interface in inpatient care; barriers include hierarchy and workload; SBAR and interdisciplinary rounds improve it. Pharmacist: prescription review, interaction checking, counselling, medication reconciliation, adverse reaction monitoring; clinical pharmacy on ward rounds reduces errors. MLS: diagnostic testing in haematology, chemical pathology, microbiology, histopathology, blood transfusion; accuracy and timeliness critical. Radiographer: diagnostic imaging; reports in absence of radiologist. Physiotherapist: mobility and rehabilitation, respiratory physiotherapy, post-surgical rehab. OT: functional assessment, activities of daily living, adaptive equipment. Speech therapist: communication and swallowing disorders; dysphagia assessment prevents aspiration pneumonia.

10. Value-added response

The most important insight across all these roles is that each profession sees the patient through a different lens: the physician sees a diagnosis, the nurse sees a person over time, the pharmacist sees a medication regimen, the physiotherapist sees a functional deficit. Interdisciplinary care is valuable precisely because no single lens captures the whole patient. The shared care plan works only when each professional contributes their distinctive perspective rather than deferring to the most senior voice.

11. Basic response

CHEW: regulated by CHPRBN; provides immunisation, antenatal care, family planning, oral rehydration, malaria management, health education at community level; the entire formal health system in many communities; effectiveness depends on training, supervision, supplies, and referral pathways. Public health physician: population-level disease prevention, health policy, outbreak response. Epidemiologist: studies disease distribution and determinants; guides prevention and control decisions; NCDC and NFELTP coordinate this work. HIM officer: medical records, ICD-10 coding, statistical reporting, electronic health systems; supports safety through accurate documentation. Psychiatrist: diagnoses and treats mental disorders, only prescriber of psychotropic medication. Psychologist: psychological assessment and psychotherapy, no prescribing. Mental health nurse: inpatient and community mental health care. Treatment gap exceeds 90%; stigma, shortage of professionals, outdated legislation (now Mental Health Act 2021). Dietitian: medical nutrition therapy for clinical conditions. Nutritionist: population nutrition, malnutrition programmes. Nigeria double burden: undernutrition and non-communicable disease. Intensivist leads ICU; critical care nurses, pharmacist, respiratory therapist, physiotherapist, dietitian complete the team; structured rounds improve outcomes.

11. Value-added response

The specialists described in this Series operate at different levels of the health system: CHEWs and nutritionists at community level, public health physicians and epidemiologists at the population level, HIM officers at the information infrastructure level, and mental health and critical care specialists at the clinical interface. Effective interdisciplinary care connects all these levels: a CHEW who identifies a severely malnourished child and refers them to a dietitian at the secondary hospital, whose records are correctly coded by the HIM officer, whose data feeds into the epidemiologist nutritional surveillance report, which informs the nutritionist community programme, represents the health system working as it should.

Answers to Pilot Questions [Series 3]

Part 3.1

1. Any two of: internist or physician in internal medicine (manages adult medical conditions); surgeon (performs operative procedures); paediatrician (cares for children); psychiatrist (treats mental disorders); obstetrician and gynaecologist (manages pregnancy and female reproductive health).
2. Any three of: patient assessment and monitoring, medication administration, wound care, patient education, emotional support, care coordination.
3. Advanced nursing practice refers to extended clinical roles undertaken by nurses with additional postgraduate training, including nurse practitioners who assess, diagnose, and initiate treatment; clinical nurse specialists who provide expert nursing in specific fields; and nurse anaesthetists.
4. The early warning function is the nurse role as the continuous monitor of hospitalised patients, enabling early detection of deterioration before it becomes critical and prompt communication of the change to the physician.
5. Any two of: professional hierarchy (nurses hesitate to challenge physicians), communication failures (information not documented or transmitted across shifts), excessive workload (too many patients to observe each carefully).

Part 3.2

1. Any two of: prescription review and interaction checking; counselling patients on medication use; medication reconciliation at admission and discharge; monitoring for adverse drug reactions; participating in ward round prescribing decisions.
2. Any two of: haematology, chemical pathology, medical microbiology, histopathology, blood transfusion science.
3. A radiographer performs diagnostic imaging including plain radiography, ultrasound, CT, MRI, and fluoroscopy; in oncology settings may also administer radiotherapy; in settings without a radiologist may report basic imaging studies.

4. The occupational therapist assesses functional capacity and enables patients to perform activities of daily living through adaptive equipment, environmental modification, and skills training, supporting independence after illness or disability.
5. Stroke patients frequently develop dysphagia (swallowing impairment); if not detected and managed, silent aspiration leads to aspiration pneumonia, which is a major cause of post-stroke mortality.

Part 3.3

1. CHEWs are a trained Nigerian health cadre providing primary care services at community level and primary health centres, serving as the frontline of the formal health system in communities where other professionals are absent.
2. Any two of: immunisation, antenatal care, family planning, oral rehydration therapy, malaria case management, health education.
3. A public health physician designs and implements disease prevention programmes, evaluates health interventions, advises on health policy, and leads the health system response to outbreaks and public health emergencies at the population level.
4. The NCDC coordinates public health surveillance and outbreak response in Nigeria, drawing on epidemiologists trained through the NFELTP to investigate and control communicable disease outbreaks.
5. Any two of: missing allergy information leading to prescription of a drug the patient has previously reacted to; incomplete medication list leading to harmful drug interaction; unavailable investigation results leading to unnecessary repeat testing or clinical error.

Part 3.4

1. Psychiatrist: diagnoses and treats mental disorders and is the only mental health professional authorised to prescribe psychotropic medication. Psychologist: provides psychological assessment and psychotherapy without prescribing authority. Mental health

nurse: provides nursing care for patients with mental illness including medication administration, mental state monitoring, and therapeutic communication.

2. The treatment gap is the proportion of people with a condition who receive no formal treatment. For mental illness in Nigeria, this exceeds 90%, meaning the vast majority of Nigerians with mental disorders receive no psychiatric or psychological care.
3. A dietitian is a regulated professional who provides medical nutrition therapy for specific clinical conditions (diabetes, renal disease, malnutrition, enteral nutrition). A nutritionist works more broadly in public health nutrition, food policy, and community-level malnutrition programmes.
4. Any four of: intensivist (specialist physician), critical care nurses, clinical pharmacist, respiratory therapist, physiotherapist, dietitian.
5. Structured interdisciplinary ICU rounds are daily team discussions in which nursing, pharmacy, respiratory therapy, and medical perspectives are each incorporated into the day plan. They improve outcomes because they reduce communication failures, the leading cause of ICU adverse events, by ensuring all team members share the same information and agree on the care plan.

References and Attributions [Series 3]

Textual references

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Figures, Plates, Tables, and Boxes

- Figure 3.1: Roles of the physician and nurse in interdisciplinary care Attribution: AI generated using prompt "Generate a two-panel diagram showing physician and nurse role wheels with an overlapping collaborative interface zone for shared clinical functions." Suggested OER search string: "physician nurse roles interdisciplinary care collaborative practice patient safety OER"
- Figure 3.2: Allied health professional roles in interdisciplinary care Attribution: AI generated using prompt "Generate a patient-centred diagram showing four allied health professions (pharmacist, MLS, radiographer, physiotherapist) with arrows showing their contributions to the care pathway." Suggested OER search string: "allied health professions pharmacist medical laboratory scientist radiographer physiotherapist interdisciplinary OER"
- Figure 3.3: Community and public health specialist roles Attribution: AI generated using prompt "Generate a community-to-tertiary care continuum diagram showing CHEW, public health physician, epidemiologist, and HIM officer roles at their respective system levels with referral and information flow arrows." Suggested OER search string: "CHEW

community health Nigeria public health physician epidemiologist health information management OER"

- Figure 3.4: Mental health, nutrition, and critical care specialist roles Attribution: AI generated using prompt "Generate a three-panel diagram showing mental health team, nutrition team, and critical care team with the scope of each specialist role." Suggested OER search string: "psychiatrist psychologist mental health nurse dietitian nutritionist critical care ICU interdisciplinary OER"

Series 4: Complementary and Alternative Medicine

- **Part 4.1: Introduction to CAM**

- Sub Part 4.1.1: Definition and classification of CAM
- Sub Part 4.1.2: Prevalence and patterns of CAM use in Nigeria
- Sub Part 4.1.3: Theoretical frameworks underlying CAM

- **Part 4.2: Traditional Medicine Systems**

- Sub Part 4.2.1: Yoruba, Igbo, and Hausa-Fulani traditional medicine
- Sub Part 4.2.2: Herbal medicine: practice and evidence
- Sub Part 4.2.3: Spiritual and faith healing

- **Part 4.3: CAM, Safety, and Evidence**

- Sub Part 4.3.1: Evaluating the evidence for CAM
- Sub Part 4.3.2: Herb-drug interactions and safety concerns
- Sub Part 4.3.3: Regulatory and ethical dimensions of CAM

- **Part 4.4: Integrating CAM with Biomedical Practice**

- Sub Part 4.4.1: Patient-centred approach to CAM disclosure
- Sub Part 4.4.2: Responsible integration of CAM and biomedicine
- Sub Part 4.4.3: Public health implications of CAM in Nigeria

Introduction

Walk through any Nigerian market and you will find vendors selling roots, bark, leaves, and powders alongside conventional medicines. Visit a village health centre and you may find that most patients have already consulted a traditional healer or taken a herbal preparation before arriving. Complementary and alternative medicine is not a peripheral feature of healthcare in Nigeria; it is, for many Nigerians, the first port of call. A clinician who cannot engage with this reality cannot fully understand their patients.

The aim of this Series is to equip you with an evidence-informed understanding of complementary and alternative medicine, its prevalence, its theoretical bases, its safety profile, and the principles for integrating it responsibly with biomedical practice in Nigeria.

We shall commence by defining CAM and examining its prevalence and theoretical frameworks. Next, we will survey the major traditional medicine systems practiced in Nigeria. Moving on, we will examine the evidence base and safety concerns associated with CAM. Finally, we will close with the practical and public health principles for integrating CAM with biomedical care.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 4.1** define complementary and alternative medicine and describe its classification and prevalence in Nigeria,
- **SLO 4.2** describe the major traditional medicine systems practised in Nigeria and their theoretical bases,
- **SLO 4.3** explain the principles for evaluating CAM evidence and describe the main herb-drug interactions and safety concerns,
- **SLO 4.4** describe the regulatory and ethical framework governing CAM in Nigeria, and
- **SLO 4.5** apply a patient-centred approach to CAM disclosure and explain the principles of responsible integration of CAM with biomedical practice.

4.1 Introduction to CAM

4.1.1 Definition and classification of CAM

Complementary and alternative medicine (CAM) encompasses a diverse group of healthcare practices, products, and systems that fall outside the mainstream of conventional biomedical medicine. **Complementary** medicine is used alongside conventional treatment; **alternative** medicine is used instead of it; **integrative** medicine deliberately combines both in a coordinated framework. The National Center for Complementary and Integrative Health (NCCIH) classifies CAM into five domains: natural products (herbs, vitamins, probiotics), mind-body practices (meditation, yoga, biofeedback), manipulative and body-based practices (chiropractic, massage), energy medicine (Reiki, therapeutic touch), and whole medical systems (traditional Chinese medicine, Ayurveda, Unani).

In the African context, the WHO distinguishes between **traditional medicine** (indigenous healing systems with cultural and historical roots in a specific community) and **complementary medicine** (non-indigenous practices adopted from outside). The WHO estimates that 80% of the world population relies on traditional medicine as its primary source of healthcare. In Nigeria, this proportion is reflected in the widespread use of herbal preparations, traditional bone-setters, spiritual healers, and traditional birth attendants, particularly in rural communities and among populations with limited access to facility-based care.

Fill in the blank: _____ medicine is used alongside conventional treatment, while alternative medicine is used instead of it; integrative medicine deliberately combines both in a coordinated framework.

4.1.2 Prevalence and patterns of CAM use in Nigeria

Studies across different Nigerian populations consistently show high rates of CAM use. Estimates range from 40 to 80% of the population using some form of traditional or complementary medicine, with prevalence highest in rural areas, among older age groups, and among patients with chronic or incurable conditions such as hypertension, diabetes, HIV, cancer, and epilepsy. The reasons for CAM use are multiple: cultural familiarity and trust in traditional

healers, perceived effectiveness, affordability and local availability, dissatisfaction with biomedical services, and the belief that CAM addresses spiritual or social dimensions of illness that biomedicine ignores.

A critical feature of CAM use in Nigeria is **concurrent use**: the majority of patients who use CAM also use conventional medicines, often without informing their clinician. This creates significant risks of herb-drug interactions and treatment interference. Studies show that fewer than 30% of patients who use CAM disclose this to their biomedical clinician, typically because they anticipate a dismissive or disapproving response. Understanding the prevalence and pattern of CAM use in your patient population is therefore not merely academic; it directly shapes the risk profile of the patients you treat.

Fill in the blank: The majority of Nigerian patients who use CAM also use conventional medicines concurrently, yet fewer than _____ % disclose this to their biomedical clinician.

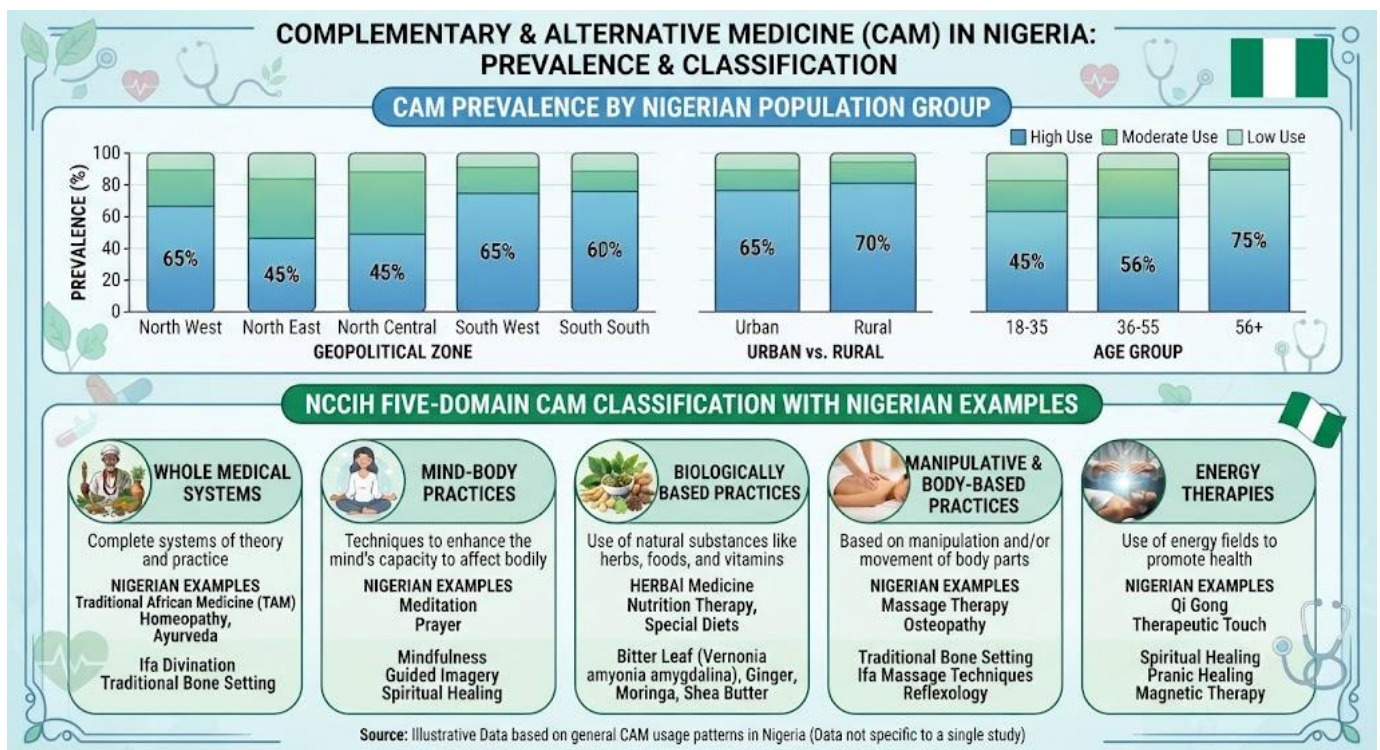


Figure 4.1: Prevalence and patterns of CAM use in Nigeria

4.1.3 Theoretical frameworks underlying CAM

Different CAM systems rest on different theoretical frameworks, some of which diverge significantly from biomedical science. **Vitalism** is the belief that living organisms are animated by a non-material life force (called chi in traditional Chinese medicine, prana in Ayurveda, or ashe in Yoruba tradition) whose disruption causes disease and whose restoration produces healing. **Holism** is the view that health and disease must be understood in the context of the whole person, including physical, psychological, social, and spiritual dimensions, rather than as a disorder of a specific organ or system. **Spiritualism** holds that illness may have supernatural causes, including ancestral displeasure, witchcraft, or spiritual attack, requiring spiritual rather than physical intervention.

Understanding these frameworks helps the clinician make sense of patient beliefs and behaviours that might otherwise seem irrational. A patient who attributes their hypertension to a spiritual attack and seeks treatment from a faith healer is not ignorant; they are applying a coherent explanatory framework that reflects their cultural and spiritual worldview. The clinician who engages with this framework respectfully, neither endorsing nor dismissing it, is better placed to negotiate a management plan that the patient will actually follow.

Fill in the blank: _____ is the belief that health and disease must be understood in the context of the whole person, including physical, psychological, social, and spiritual dimensions, rather than as a disorder of a specific organ.

Pilot questions 4.1

1. Define complementary medicine and alternative medicine.
2. Name the five NCCIH domains of CAM.
3. What proportion of the world population relies on traditional medicine as its primary source of healthcare?
4. Why do Nigerian patients commonly fail to disclose CAM use to their biomedical clinician?
5. What is vitalism?

4.2 Traditional Medicine Systems

4.2.1 Yoruba, Igbo, and Hausa-Fulani traditional medicine

The major ethnic traditions of Nigeria each have well-developed systems of traditional medicine. **Yoruba traditional medicine** (Oogun) is grounded in the Ifa divination system and recognises multiple categories of illness: those with purely physical causes, those with supernatural causes including witchcraft and ancestral displeasure, and those requiring both physical and spiritual intervention. The **babalawo** (divination priest) and the **onisekun** (herbalist) are the principal practitioners. Herbal remedies are central, but ritual, sacrifice, and incantation are integral components of treatment for spiritually attributed illness.

Igbo traditional medicine similarly recognises natural and supernatural illness causation, with the **dibia** serving as healer, diviner, and mediator with the spirit world. **Hausa-Fulani traditional medicine** is deeply influenced by Islamic medicine (**Tibb**), which draws on Quranic healing, herbal remedies, and spiritual practices rooted in Islamic theology. Traditional bone-setting is widely practised across all three traditions and remains a common first response to fractures and dislocations, particularly in rural areas. Understanding the specific traditional medicine system prevalent in a patient community helps the clinician anticipate the types of CAM exposure the patient may have had.

Fill in the blank: In Yoruba traditional medicine, the _____ is the divination priest who diagnoses illness and determines appropriate spiritual and herbal treatment, while the onisekun specialises in herbal remedies.

4.2.2 Herbal medicine: practice and evidence

Herbal medicine is the most widely used form of CAM globally and in Nigeria. Plants have been the source of many important biomedical drugs: aspirin from willow bark, morphine from the opium poppy, quinine from cinchona bark, and **artemisinin** from *Artemisia annua* (validated from traditional Chinese medicine and now a cornerstone of malaria treatment). This

pharmacological heritage supports the plausibility that other plant compounds have genuine therapeutic activity, but it does not validate specific traditional formulations without evidence.

The challenge with herbal medicine is that most preparations in common use in Nigeria have not been subjected to rigorous clinical trials. Quality control is also problematic: the same plant species collected from different locations or seasons may have very different active compound concentrations. **Adulteration** of herbal products with undisclosed pharmaceutical drugs (including steroids, sildenafil, and anti-inflammatory agents) is documented in regulatory analyses of Nigerian herbal products. Clinicians should enquire specifically about herbal medicine use, ask about the preparation and source, and be alert to clinical presentations that may reflect herbal toxicity rather than the patient underlying disease.

Fill in the blank: _____ is derived from *Artemisia annua* and represents a plant compound from traditional Chinese medicine that has been validated through rigorous clinical research and is now a cornerstone of malaria treatment globally.

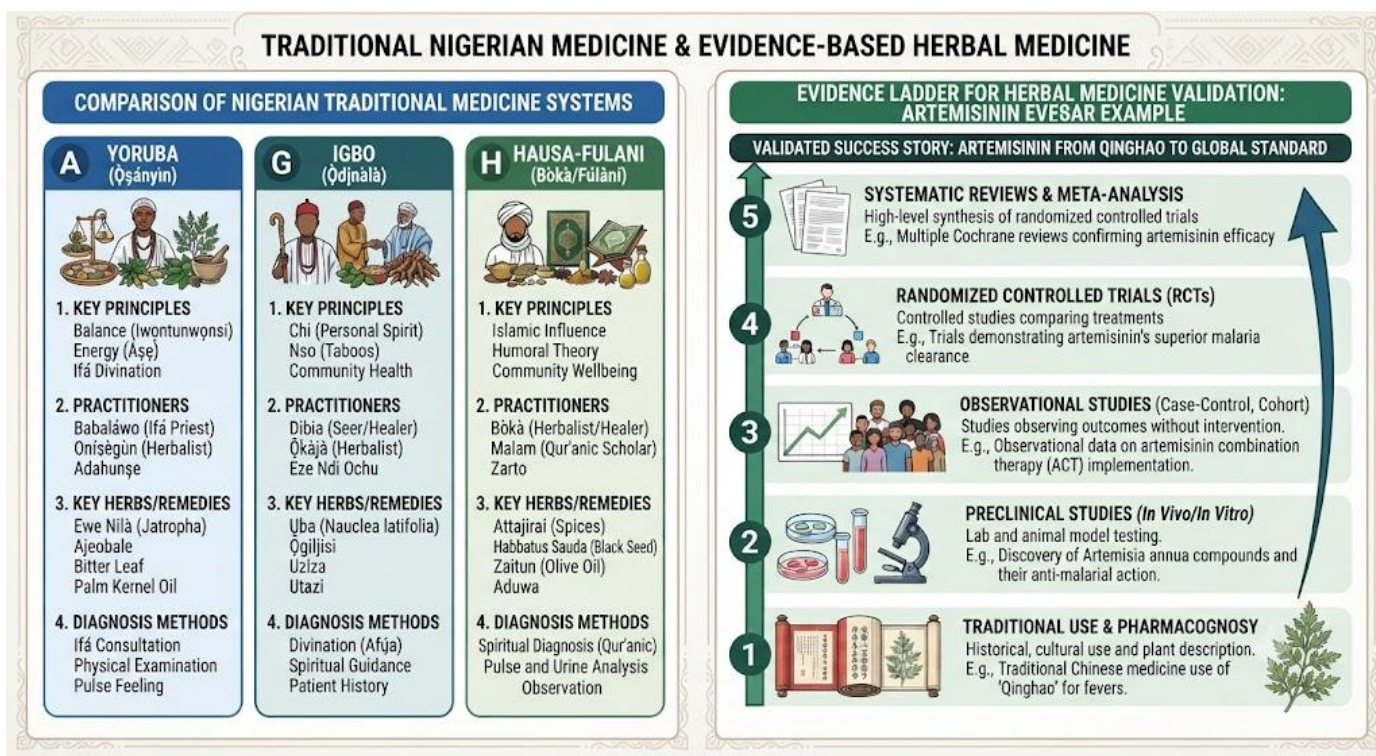


Figure 4.2: Traditional medicine systems in Nigeria and herbal medicine evidence

4.2.3 Spiritual and faith healing

Spiritual and faith healing encompasses practices in which illness is attributed to supernatural causes and treated through prayer, ritual, fasting, anointing with oil, or the invocation of divine power. In Nigeria, these practices are embedded in all major religious traditions: Pentecostal and charismatic Christian churches conduct healing services in which physical cures are claimed; Islamic healers (**Mallams**) use Quranic recitation, blessed water, and written charms (**taweez**) for healing; and traditional religion practitioners invoke ancestral powers and deities. Faith healing is frequently the first and sometimes the only response to serious illness in communities with strong religious beliefs and limited biomedical access.

The clinical implications of faith healing are significant. Patients who believe their illness has a spiritual cause may delay or abandon biomedical treatment while seeking spiritual cure. Children with cerebral malaria, women with obstructed labour, and patients with psychosis have all died because family members sought spiritual healing instead of or before biomedical care. The clinician response is neither to endorse faith healing claims nor to dismiss them contemptuously: both approaches damage the therapeutic relationship. Instead, the goal is respectful co-existence, encouraging the patient to continue spiritual practices while also accepting biomedical treatment, particularly when delay would be dangerous.

Fill in the blank: The clinical risk of faith healing arises when patients _____ or abandon biomedical treatment while seeking spiritual cure, particularly in time-sensitive emergencies such as cerebral malaria or obstructed labour.

Pilot questions 4.2

1. Name the principal CAM practitioners in Yoruba and Igbo traditional medicine.
2. How does Hausa-Fulani traditional medicine differ from Yoruba traditional medicine?
3. Name one plant compound from traditional medicine that has been validated as a biomedical drug.
4. What is adulteration of herbal products and why is it clinically significant?
5. What is the appropriate clinical response to a patient who uses faith healing?

4.3 CAM, Safety, and Evidence

4.3.1 Evaluating the evidence for CAM

Evaluating CAM evidence requires applying the same scientific standards used for biomedical interventions: the evidence hierarchy places randomised controlled trials (RCTs) and systematic reviews at the top, above observational studies, case reports, and expert opinion. Most CAM practices have not been subjected to rigorous RCTs, and where trials exist, they are often of poor methodological quality. However, applying the biomedical evidence hierarchy to CAM raises a methodological challenge: the **placebo** effect is a significant contributor to CAM benefit, and the interpersonal quality of the therapeutic encounter in traditional medicine settings may itself be therapeutic regardless of the specific remedy.

A practical framework for evaluating any CAM claim considers three questions. First, what is the **quality of the evidence** (RCT, observational, or tradition only)? Second, what is the **specificity of the claim** (does the evidence apply to this condition in this population)? Third, what is the **risk-benefit ratio** (even if evidence of benefit is uncertain, is the practice low enough in risk to be acceptable alongside conventional care)? This framework avoids both uncritical acceptance of CAM claims and reflexive dismissal of practices that, while unproven, may be low in risk and high in cultural value for the patient.

Fill in the blank: The three questions in a practical CAM evidence evaluation framework are: quality of evidence, specificity of the claim, and risk-_____ ratio.

4.3.2 Herb-drug interactions and safety concerns

Herb-drug interactions arise when plant compounds alter the pharmacokinetics or pharmacodynamics of conventional drugs. The most clinically significant example is **St John's Wort** (*Hypericum perforatum*), which induces hepatic CYP450 enzymes and reduces plasma levels of antiretrovirals, oral contraceptives, anticoagulants, and immunosuppressants. In the Nigerian context, where antiretroviral therapy for HIV is widely used, St John's Wort use can cause treatment failure. Other documented interactions include garlic reducing anticoagulant

effect, ginger increasing bleeding risk, and many West African herbal preparations interfering with antidiabetic and antihypertensive drugs.

Beyond drug interactions, herbal medicines may cause direct toxicity. **Hepatotoxicity** is documented with preparations containing pyrrolizidine alkaloids (found in comfrey and some West African herbs). **Nephrotoxicity** is associated with preparations containing aristolochic acid. **Heavy metal contamination** (lead, mercury, arsenic) has been found in unregulated herbal products. Traditional bone-setting can cause compartment syndrome, avascular necrosis, and amputation when fractures are managed with tight splinting or incorrect manipulation. The clinician should ask about all CAM use as part of the standard medication history and be alert to unexplained clinical deterioration that may reflect unrecognised herbal toxicity.

Fill in the blank: St John's Wort induces hepatic _____ enzymes, reducing plasma levels of antiretrovirals, oral contraceptives, and anticoagulants, creating the risk of treatment failure in patients taking these drugs.

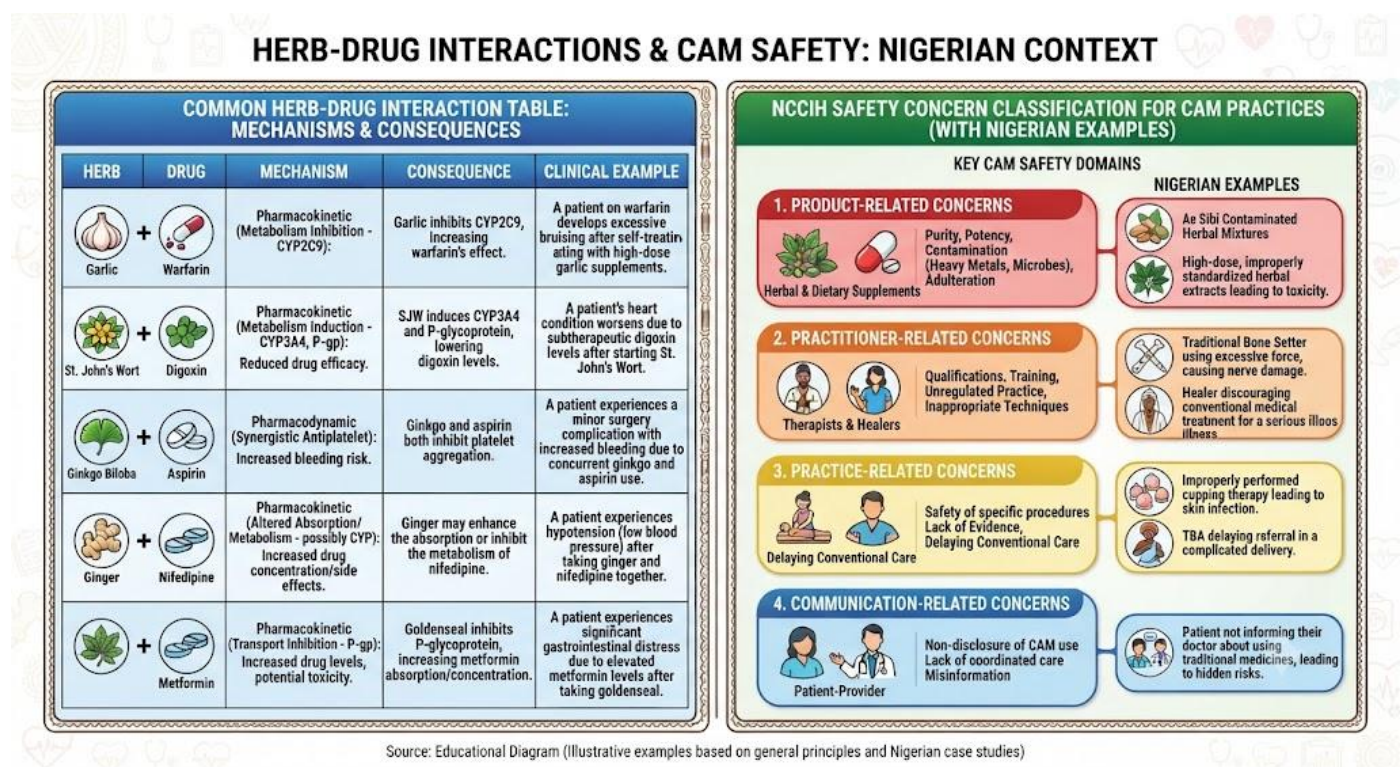


Figure 4.3: Herb-drug interactions and CAM safety

4.3.3 Regulatory and ethical dimensions of CAM

CAM in Nigeria operates within a fragmented regulatory framework. The **National Agency for Food and Drug Administration and Control (NAFDAC)** regulates herbal medicines and dietary supplements that are manufactured and marketed, requiring registration and quality testing before sale. However, enforcement is limited, and a large proportion of herbal products in circulation are unregistered. Traditional medicine practitioners are regulated at the state level through **Traditional Medicine Boards**, whose standards and enforcement capacity vary widely. The **National Traditional Medicine Policy** (2007) provides a framework for integrating traditional medicine into the Nigerian health system, but implementation has been slow.

The ethical dimensions of CAM centre on the same principles that govern biomedical care. **Autonomy** requires that patients receive accurate information about CAM evidence and risks, enabling genuinely informed decisions. **Non-maleficence** obliges clinicians to protect patients from harmful CAM practices, while also avoiding the paternalistic imposition of biomedical values on patients whose cultural framework differs. **Justice** requires that CAM regulation protects vulnerable populations, particularly those in rural communities who may lack the health literacy to evaluate CAM claims critically. These ethical principles do not provide simple answers but frame the questions that must be asked in every clinical encounter involving CAM.

Fill in the blank: In Nigeria, herbal medicines that are manufactured and marketed must be registered with _____ before sale, but many unregistered products circulate freely due to limited enforcement capacity.

Pilot questions 4.3

1. Name the three questions in a practical CAM evidence evaluation framework.
2. Give one example of a clinically significant herb-drug interaction and explain the mechanism.
3. Name two forms of direct toxicity associated with herbal medicines.
4. What is the role of NAFDAC in regulating CAM in Nigeria?
5. Which ethical principle obliges clinicians to protect patients from harmful CAM while respecting patient autonomy?

4.4 Integrating CAM with Biomedical Practice

4.4.1 Patient-centred approach to CAM disclosure

The most important clinical step in managing CAM use is to **ask about it** routinely and without judgment. The standard medication history should include the question: "Are you taking or using any herbal preparations, traditional remedies, or treatments from a healer?" The question should be worded to convey that CAM use is expected and accepted rather than unusual or problematic. Research shows that non-judgmental enquiry significantly increases CAM disclosure rates, enabling clinicians to identify potential interactions and to provide accurate information about risks.

When a patient discloses CAM use, the response should be **exploratory and practical**: ask what they are using, why they are using it, what they believe it does, and whether it seems to be helping. This information is clinically useful and communicates respect for the patient explanatory model. If a CAM practice appears safe, there is no clinical reason to discourage it, and doing so unnecessarily damages the therapeutic relationship. If a CAM practice poses a risk, explain this clearly, in plain language, without condescension, and offer a constructive alternative where possible.

Fill in the blank: Asking about CAM use should be done routinely and without _____ ; non-judgmental enquiry significantly increases the rate at which patients disclose herbal and traditional medicine use to their clinician.

4.4.2 Responsible integration of CAM and biomedicine

Responsible integration means applying the same standards of evidence and safety to both biomedical and CAM interventions, without automatically privileging one system over the other. A CAM practice with credible evidence of benefit and a good safety profile can be offered alongside or in place of a biomedical intervention when the patient prefers it and the clinical circumstances allow. Conversely, a biomedical intervention with poor evidence and significant side effects is not automatically superior to a CAM practice simply because it is conventional. The criterion is evidence and safety, not institutional origin.

Practical integration also requires building **referral partnerships** with traditional and faith healers. When traditional healers recognise danger signs and refer patients to biomedical facilities, lives are saved. Training programmes for traditional healers in recognition of obstetric emergencies, severe malaria, and sepsis have been implemented in several African countries and have reduced mortality. In Nigeria, the National Traditional Medicine Policy envisages collaboration between traditional and biomedical practitioners; operationalising this at the facility level through clear referral protocols is a achievable and potentially high-impact intervention.

Fill in the blank: Responsible integration of CAM with biomedicine applies the criterion of _____ and safety to both systems equally, without privileging conventional medicine solely on the basis of its institutional origin.

4.4.3 Public health implications of CAM in Nigeria

CAM use has significant public health dimensions in Nigeria, both positive and negative. On the positive side, traditional medicine practitioners are present in communities where biomedical services are absent, providing a healthcare safety net for populations that would otherwise receive no care. Some traditional practices, such as the use of oral rehydration therapy for diarrhoea, align with evidence-based approaches. Community trust in traditional healers can be leveraged for health promotion and disease prevention when healers are engaged as partners rather than adversaries.

The negative public health dimensions include delays in biomedical care for treatable emergencies (cerebral malaria, sepsis, obstetric emergencies), direct toxicity from herbal preparations and bone-setting, and the contribution of unregulated herbal products to antibiotic resistance and multi-drug resistant tuberculosis. Addressing these risks requires **integrating traditional medicine into the health system** rather than opposing it: training healers in danger sign recognition, establishing referral pathways, regulating herbal products, and engaging communities in honest dialogue about the evidence for and against specific CAM practices.

Fill in the blank: One positive public health contribution of traditional medicine in Nigeria is that practitioners are present in communities where _____ services are absent, providing a healthcare safety net for underserved populations.

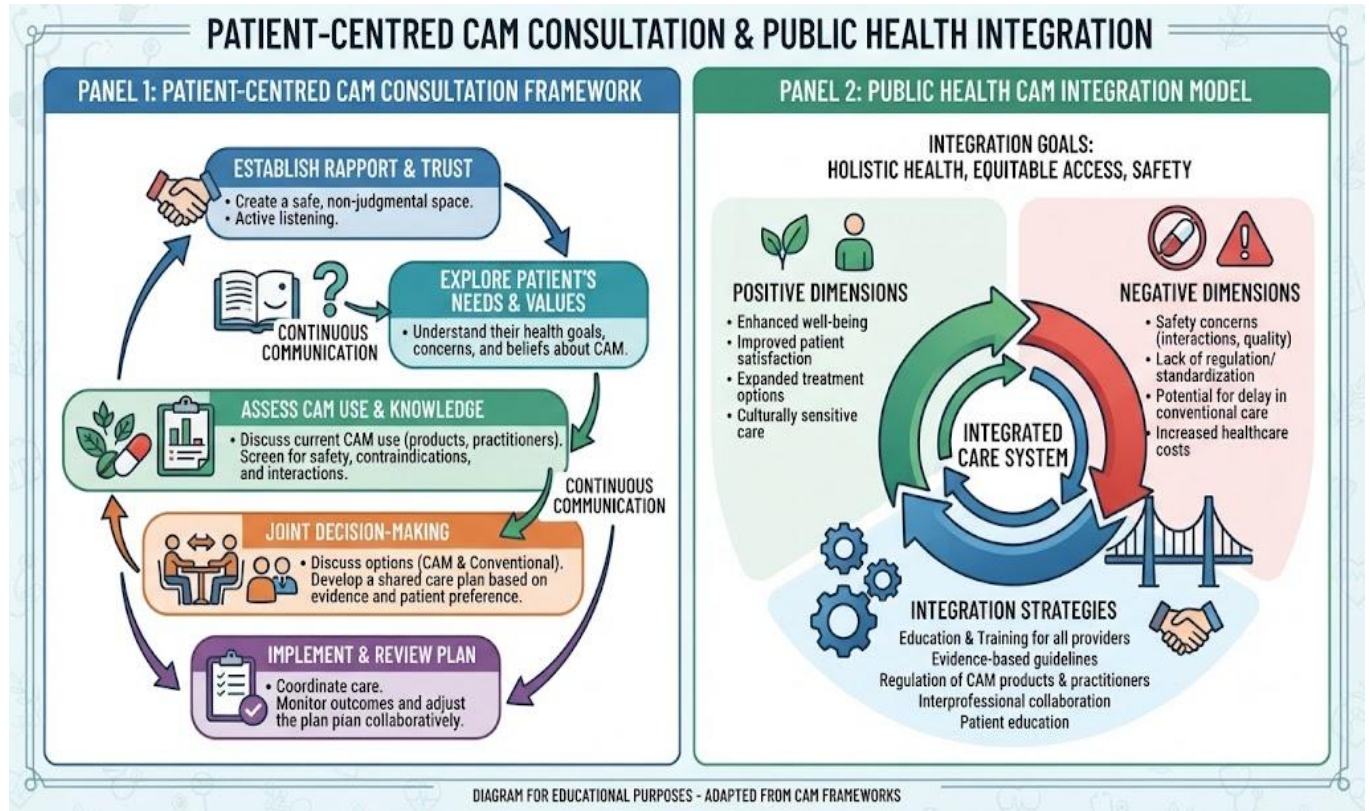


Figure 4.4: Integration of CAM with biomedical practice in Nigeria

Pilot questions 4.4

1. What question should a clinician ask to elicit CAM use in a standard medication history?
2. What is the appropriate response when a patient discloses a CAM practice that appears safe?
3. What is the criterion for responsible integration of CAM with biomedicine?
4. Give one example of a referral partnership between traditional and biomedical practitioners.
5. Name two negative public health consequences of CAM use in Nigeria.

Series Summary

This Series examined complementary and alternative medicine as an integral feature of healthcare in Nigeria rather than a marginal curiosity. CAM was defined and classified, and its high prevalence and patterns of concurrent use with conventional medicine were established. The major traditional medicine systems of Nigeria, including Yoruba, Igbo, and Hausa-Fulani traditions, were described alongside the evidence base for herbal medicine and the clinical implications of spiritual and faith healing. Safety concerns including herb-drug interactions, herbal toxicity, and the complications of traditional bone-setting were examined alongside the regulatory framework governing CAM in Nigeria.

The practical principles of patient-centred CAM disclosure were established: ask routinely, without judgment, and respond with exploration rather than dismissal. Responsible integration was defined by the criterion of evidence and safety applied equally to both systems. The public health dimensions of CAM were examined, showing both its potential as a community healthcare safety net and its risks as a source of treatment delay and direct toxicity. Together these principles equip you to engage with CAM as a clinically and culturally competent practitioner in the Nigerian context (SLOs 4.1 to 4.5).

Glossary of Terms

- **Adulteration:** the addition of undisclosed pharmaceutical drugs or other substances to a herbal product, a documented safety risk in Nigerian herbal medicine markets.
- **Alternative medicine:** non-conventional healthcare practices used instead of conventional biomedical treatment.
- **Artemisinin:** a plant-derived antimalarial compound from *Artemisia annua*, the paradigm case of a traditional remedy validated through biomedical research.
- **Babalawo:** a Yoruba divination priest who uses the Ifa system to diagnose illness and determine appropriate treatment.

- **Complementary medicine:** non-conventional healthcare practices used alongside conventional biomedical treatment.
- **CYP450:** hepatic cytochrome P450 enzymes responsible for metabolising many drugs; induced by St John's Wort, reducing plasma levels of co-administered drugs.
- **Hepatotoxicity:** liver damage caused by a toxic substance, including compounds found in some herbal preparations such as those containing pyrrolizidine alkaloids.
- **Herb-drug interaction:** an alteration in the pharmacokinetics or pharmacodynamics of a conventional drug caused by a co-administered plant compound.
- **Integrative medicine:** a deliberate combination of conventional biomedical and complementary or alternative medicine within a coordinated clinical framework.
- **Vitalism:** the belief that living organisms are animated by a non-material life force whose disruption causes disease and whose restoration produces healing.

Concept Check Questions [Series 4]

Objective questions

1. _____ medicine is used alongside conventional treatment, while alternative medicine is used instead of it. (Linked to SLO 4.1)
2. The WHO estimates that _____ % of the world population relies on traditional medicine as its primary source of healthcare. (Linked to SLO 4.1)
3. _____ is derived from *Artemisia annua* and is the paradigm case of a traditional remedy validated through rigorous biomedical research. (Linked to SLO 4.2)
4. St John's Wort induces hepatic CYP_____ enzymes, reducing plasma levels of antiretrovirals and oral contraceptives. (Linked to SLO 4.3)
5. In Nigeria, herbal medicines that are manufactured and marketed must be registered with _____ before sale. (Linked to SLO 4.4)
6. Asking about CAM use should be done without _____ ; non-judgmental enquiry increases patient disclosure. (Linked to SLO 4.5)

Short-answer questions

7. Explain why Nigerian patients commonly use CAM concurrently with conventional medicines and why they often do not disclose this to their clinician. (Linked to SLO 4.1)
8. Describe two clinically significant herb-drug interactions and explain the mechanism of each. (Linked to SLO 4.3)
9. Describe the patient-centred approach to CAM disclosure and explain when and how a clinician should discourage a CAM practice. (Linked to SLO 4.5)

Long-answer questions

10. Discuss the major traditional medicine systems practised in Nigeria, covering their theoretical frameworks, principal practitioners, and the evidence base for herbal medicine. (Linked to SLOs 4.2, 4.3)

11. Discuss the principles of responsible integration of CAM with biomedical practice in Nigeria, including the safety and ethical framework and the public health implications. (Linked to SLOs 4.3, 4.4, 4.5)

Answers to Concept Check Questions [Series 4]

Objective questions

1. Complementary.
2. 80.
3. Artemisinin.
4. 450.
5. NAFDAC.
6. Judgment.

Short-answer questions

7. Patients use CAM concurrently because they trust traditional remedies culturally, find them affordable and accessible, believe they address spiritual dimensions of illness, and want to use every available option, especially for chronic or incurable conditions. They do not disclose because they anticipate a dismissive or disapproving response from their biomedical clinician. Studies show that fewer than 30% disclose CAM use despite high concurrent use rates.
8. St John's Wort and antiretrovirals: St John's Wort induces hepatic CYP450 enzymes, accelerating the metabolism of antiretroviral drugs and reducing their plasma levels; this can cause virological failure and HIV treatment resistance. Garlic and anticoagulants: garlic has antiplatelet and anticoagulant properties; combined with warfarin or aspirin, it increases bleeding risk through an additive pharmacodynamic interaction.
9. Ask about CAM use routinely as part of the standard medication history, using a non-judgmental question such as "Are you using any herbal preparations or seeing a traditional healer?" If the practice appears safe, do not discourage it; doing so

unnecessarily damages the therapeutic relationship. If the practice poses a risk, explain this clearly in plain language without condescension, identify the specific risk (e.g. herb-drug interaction), and offer a practical alternative where possible.

Long-answer questions

10. Basic response

Theoretical frameworks: vitalism (life force disruption causes disease), holism (whole person including spiritual dimensions), spiritualism (supernatural illness causation). Yoruba: illness may be natural or supernatural; babalawo uses Ifa divination; onisegun provides herbal treatment; ritual and incantation for spiritually attributed illness. Igbo: dibia as healer and spirit mediator; natural and supernatural causation. Hausa-Fulani: Islamic Tibb; Quranic healing, blessed water, taweez; herbal remedies grounded in Islamic theology. Traditional bone-setting common across all traditions. Herbal medicine evidence: pharmacological plausibility (plant compounds as drug sources: quinine, morphine, aspirin, artemisinin); most Nigerian herbal preparations lack RCT evidence; quality control problems; adulteration with pharmaceutical drugs documented.

10. Value-added response

The paradigm case of artemisinin demonstrates that traditional medicine can produce validated biomedical innovations when subjected to rigorous scientific evaluation. The lesson is not that all traditional remedies are effective but that dismissing traditional medicine entirely forecloses the possibility of discovering compounds with genuine therapeutic value. A clinician who engages respectfully and enquiringly with traditional medicine is better placed both to protect patients from its risks and to benefit from its potential.

11. Basic response

Evidence framework: quality (RCT versus observational versus tradition), specificity (does evidence apply to this patient and condition), risk-benefit ratio. Safety: herb-drug interactions (St John's Wort and CYP450, garlic and anticoagulants, West African herbs and antidiabetics); hepatotoxicity (pyrrolizidine alkaloids), nephrotoxicity (aristolochic acid), heavy metal

contamination; bone-setting complications. Regulatory: NAFDAC for manufactured herbal products; Traditional Medicine Boards at state level; National Traditional Medicine Policy 2007. Ethics: autonomy (accurate information for informed choice), non-maleficence (protect from harm without paternalism), justice (protect vulnerable populations). Integration: ask routinely and without judgment; explore safely; discourage only where risk is clear; referral partnerships with traditional and faith healers. Public health: positive (community access, cultural trust); negative (treatment delay, toxicity, resistance); integration strategies (train healers in danger sign recognition, establish referral pathways, regulate products).

11. Value-added response

The most effective public health response to CAM in Nigeria is engagement, not opposition. Prohibition of traditional medicine is neither feasible nor desirable; it drives practice underground and destroys the trust that is needed to negotiate with communities about danger signs and referral. A programme that trains traditional healers to recognise obstructed labour, cerebral malaria, and neonatal sepsis and to refer promptly addresses the most lethal consequence of CAM use, the delay to emergency biomedical care, while preserving the community relationships that make such training possible.

Answers to Pilot Questions [Series 4]

Part 4.1

1. Complementary medicine is used alongside conventional treatment. Alternative medicine is used instead of conventional treatment.
2. Natural products, mind-body practices, manipulative and body-based practices, energy medicine, whole medical systems.
3. Approximately 80%.
4. Because they anticipate a dismissive or disapproving response from their biomedical clinician.

5. Vitalism is the belief that living organisms are animated by a non-material life force whose disruption causes disease and whose restoration produces healing.

Part 4.2

1. Yoruba: babalawo (divination priest) and onisekun (herbalist). Igbo: dibia (healer, diviner, and spirit mediator).
2. Hausa-Fulani traditional medicine is deeply influenced by Islamic Tibb, grounding its practices in Quranic healing, blessed water, and herbal remedies within an Islamic theological framework, whereas Yoruba traditional medicine is grounded in the Ifa divination system and Yoruba spiritual cosmology.
3. Any one of: quinine (from cinchona bark, antimalarial), morphine (from opium poppy, analgesia), aspirin (from willow bark, analgesic and anti-inflammatory), artemisinin (from *Artemisia annua*, antimalarial).
4. Adulteration is the addition of undisclosed pharmaceutical drugs to herbal products. It is clinically significant because patients and clinicians are unaware of the active pharmacological ingredients, making it impossible to assess drug interactions, correct dosing, or adverse effects.
5. Respectful co-existence: encourage the patient to continue spiritual practices while also accepting biomedical treatment; explain that both can proceed simultaneously; avoid dismissing faith healing in a way that damages the therapeutic relationship, but make clear when delay for biomedical treatment would be dangerous.

Part 4.3

1. Quality of evidence, specificity of the claim, and risk-benefit ratio.
2. St John's Wort and antiretrovirals: St John's Wort induces hepatic CYP450 enzymes, increasing the rate of antiretroviral metabolism and reducing plasma drug levels, which can cause HIV virological failure.

3. Any two of: hepatotoxicity from pyrrolizidine alkaloids; nephrotoxicity from aristolochic acid; heavy metal contamination (lead, mercury, arsenic) from unregulated products.
4. NAFDAC requires registration and quality testing of herbal medicines that are manufactured and marketed in Nigeria before they can be sold; it also investigates and removes unsafe products from circulation, though enforcement capacity limits the effectiveness of this regulation.
5. Non-maleficence: the duty to avoid causing unnecessary harm obliges clinicians to identify and address harmful CAM practices, while not imposing biomedical values paternalistically on patients whose cultural framework differs.

Part 4.4

1. "Are you taking or using any herbal preparations, traditional remedies, or treatments from a healer?" This should be asked as part of the standard medication history in a tone that treats CAM use as expected and acceptable.
2. Do not discourage it; doing so unnecessarily damages the therapeutic relationship and reduces the likelihood that the patient will disclose future CAM use. Acknowledge the practice, note it in the records, and monitor for any clinical changes.
3. Evidence and safety: a CAM practice with credible evidence of benefit and a good safety profile can be used alongside or instead of a conventional intervention when the patient prefers it; the criterion is not whether the practice is conventional but whether it is safe and evidence-supported.
4. Training traditional birth attendants or traditional healers in recognition of obstetric danger signs and establishing a clear referral pathway to the nearest maternity facility, so that women with obstructed labour or postpartum haemorrhage are transferred before complications become fatal.
5. Any two of: delays in biomedical care for treatable emergencies (cerebral malaria, sepsis, obstructed labour); direct toxicity from herbal preparations (hepatotoxicity, nephrotoxicity, heavy metal poisoning); complications of traditional bone-setting

(compartment syndrome, avascular necrosis, amputation); contribution to antibiotic resistance through unregulated herbal antibiotic use.

References and Attributions [Series 4]

Textual references

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- National Open University of Nigeria (NOUN). (2023). Multidisciplinary healthcare II course material. NOUN Press.

Figures, Plates, Tables, and Boxes

- Figure 4.1: Prevalence and patterns of CAM use in Nigeria Attribution: AI generated using prompt "Generate a diagram showing Nigerian CAM prevalence by population group and a five-domain NCCIH CAM classification with Nigerian examples of each domain." Suggested OER search string: "CAM prevalence Nigeria traditional medicine classification NCCIH complementary alternative OER"
- Figure 4.2: Traditional medicine systems in Nigeria and herbal medicine evidence Attribution: AI generated using prompt "Generate a two-panel diagram comparing Yoruba, Igbo, and Hausa-Fulani traditional medicine systems and an evidence ladder for herbal medicine with artemisinin as the validated example." Suggested OER search string: "Yoruba Igbo Hausa traditional medicine Nigeria herbal medicine evidence artemisinin OER"
- Figure 4.3: Herb-drug interactions and CAM safety Attribution: AI generated using prompt "Generate a herb-drug interaction table with mechanisms and consequences"

alongside a CAM safety concern classification diagram with Nigerian examples."

Suggested OER search string: "herb-drug interactions St John's Wort CYP450 herbal hepatotoxicity nephrotoxicity traditional bone-setting Nigeria OER"

- Figure 4.4: Integration of CAM with biomedical practice in Nigeria Attribution: AI generated using prompt "Generate a two-panel diagram showing a patient-centred CAM consultation framework and a public health CAM integration model with positive and negative dimensions and integration strategies." Suggested OER search string: "CAM integration biomedical Nigeria traditional medicine patient-centred public health referral OER"

Series 5: Medical Jurisprudence and Liability

- **Part 5.1: Foundations of Medical Jurisprudence**
 - Sub Part 5.1.1: Definition and scope of medical jurisprudence
 - Sub Part 5.1.2: Sources of medical law in Nigeria
 - Sub Part 5.1.3: The doctor-patient relationship in law
- **Part 5.2: Medical Negligence and Liability**
 - Sub Part 5.2.1: Elements of medical negligence
 - Sub Part 5.2.2: Standards of care and the reasonable clinician
 - Sub Part 5.2.3: Common sources of medical negligence claims
- **Part 5.3: Clinical Records, Certification, and Controlled Substances**
 - Sub Part 5.3.1: The clinical record as a legal document
 - Sub Part 5.3.2: Death certification and medicolegal reports
 - Sub Part 5.3.3: Controlled drugs: legal obligations of the prescriber
- **Part 5.4: Regulation, Discipline, and Patient Rights**
 - Sub Part 5.4.1: Regulatory bodies and professional discipline
 - Sub Part 5.4.2: Patient rights under the National Health Act 2014
 - Sub Part 5.4.3: Emerging issues in medical jurisprudence in Nigeria

Introduction

The practice of medicine carries legal consequences. A prescription is a legal document. A death certificate triggers legal processes. A clinical record can be subpoenaed. An operation performed without valid consent may constitute battery. A clinician who fails to meet the expected standard of care may face civil liability, criminal prosecution, and professional disciplinary action simultaneously. Medical jurisprudence is not a subject that only matters when things go wrong; it defines the legal framework within which all clinical practice operates.

The aim of this Series is to equip you with a foundational understanding of medical law and professional liability as they apply to clinical practice in Nigeria.

We shall commence by examining the foundations of medical jurisprudence and the sources of medical law in Nigeria. Next, we will analyse medical negligence and the legal standards against which clinical conduct is measured. Moving on, we will address the specific legal obligations attached to clinical records, death certification, and controlled substances. Finally, we will close with the regulatory framework for professional discipline and the patient rights established under Nigerian law.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 5.1** define medical jurisprudence and describe the sources of medical law in Nigeria,
- **SLO 5.2** explain the legal nature of the doctor-patient relationship,
- **SLO 5.3** describe the three elements required to establish medical negligence and explain the standard of care expected of a clinician,
- **SLO 5.4** identify the common sources of medical negligence claims in Nigerian practice,
- **SLO 5.5** describe the legal requirements for clinical records, death certification, and controlled drug management,

- **SLO 5.6** explain the role of regulatory bodies in professional discipline, and
- **SLO 5.7** describe the patient rights established under the National Health Act 2014.

5.1 Foundations of Medical Jurisprudence

5.1.1 Definition and scope of medical jurisprudence

Medical jurisprudence is the application of legal principles to the practice of medicine and the application of medical knowledge to legal questions. Its scope in clinical practice is far wider than most clinicians appreciate: it encompasses the legal nature of the clinical relationship, the obligations attached to clinical records, the law of consent, the criminal and civil liability of clinicians, and the regulatory framework governing professional conduct. Every clinical act, from taking a history to signing a prescription, has a potential legal dimension.

Medical jurisprudence also includes **forensic medicine**: the application of medical expertise to questions arising in legal proceedings, including determining cause of death, assessing the nature of injuries, estimating time of death, and providing expert opinion on standards of clinical care. In Nigeria, both dimensions of medical jurisprudence are relevant to practice: clinical jurisprudence governs the day-to-day obligations of the clinician, while forensic medicine connects clinical expertise to the justice system.

Fill in the blank: _____ jurisprudence is the application of legal principles to the practice of medicine and the application of medical knowledge to legal questions arising in clinical and forensic contexts.

5.1.2 Sources of medical law in Nigeria

Medical law in Nigeria derives from multiple sources. **Statute law** includes Acts of the National Assembly and state laws directly governing health practice: the National Health Act 2014, the Medical and Dental Practitioners Act, the Nursing and Midwifery Act, the Mental Health Act 2021, the Pharmacists Act, and the National Agency for Food and Drug Administration and

Control Act. **Common law** inherited from the English legal tradition provides the principles of negligence, contract, and tort that govern civil liability. **Professional regulations** issued by the MDCN and other councils create enforceable standards of conduct.

Case law (judicial decisions in Nigerian courts) interprets and applies these statutory and common law principles to specific facts, creating precedents that bind lower courts. In the absence of Nigerian case law on a specific point of medical law, Nigerian courts may follow English decisions, particularly those of the House of Lords or UK Supreme Court. **Ethical guidelines** issued by professional bodies, while not legally binding in themselves, may be admitted as evidence of the standard expected of a reasonably competent practitioner.

Fill in the blank: The _____ Health Act 2014 is the primary statute governing health practice rights and obligations in Nigeria, establishing patient rights and the legal obligations of healthcare providers.

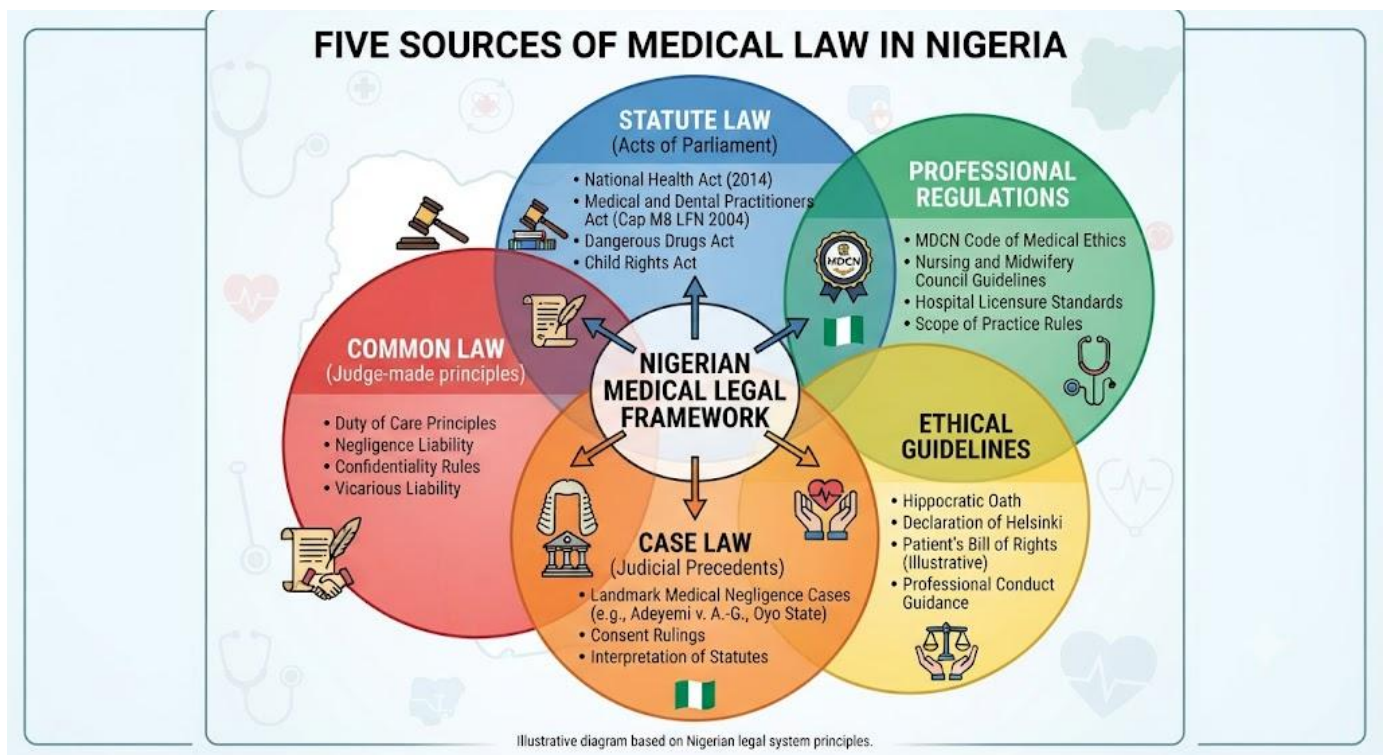


Figure 5.1: Sources of medical law in Nigeria

5.1.3 The doctor-patient relationship in law

The doctor-patient relationship has a legal character that imposes specific obligations on the clinician. It is primarily a **contractual relationship** when a patient consults a private practitioner: the patient pays (directly or through an insurer) and the clinician provides services, creating mutual obligations enforceable in contract law. In the public health sector, the relationship is primarily governed by **tort law** (the law of civil wrongs): the clinician owes the patient a duty of care arising from the professional relationship, and breach of that duty causing harm gives rise to a claim in negligence.

Several specific duties flow from this relationship. The duty of **confidentiality** has been examined in Series 1. The duty of **care** requires the clinician to meet the standard expected of a reasonably competent practitioner. The duty of **referral** arises when the patient condition requires expertise beyond the clinician competence; failure to refer when indicated is a recognised source of negligence claims. The duty to maintain **accurate records** is both a clinical obligation and a legal one; records may be required in disciplinary proceedings, civil litigation, and criminal investigations.

Fill in the blank: In the public health sector in Nigeria, the doctor-patient relationship is governed primarily by _____ law, specifically the duty of care arising from the professional relationship whose breach causing harm gives rise to a negligence claim.

Pilot questions 5.1

1. Define medical jurisprudence.
2. Name three sources of medical law in Nigeria.
3. What is the primary statute governing healthcare rights and obligations in Nigeria?
4. What legal character does the doctor-patient relationship have in a public hospital?
5. Name three duties that flow from the doctor-patient relationship.

5.2 Medical Negligence and Liability

5.2.1 Elements of medical negligence

Medical negligence is the failure of a clinician to meet the standard of care expected of a reasonably competent practitioner in their field, resulting in harm to the patient. For a claim to succeed, three elements must be established. First, the clinician must have owed the patient a **duty of care**: this is easily established by the existence of a clinical relationship. Second, the clinician must have **breached** that duty by acting (or failing to act) in a way that falls below the expected standard. Third, that breach must have **caused** recognisable harm to the patient; damage that would have occurred regardless of the clinician conduct does not satisfy this element.

All three elements must be proved on the **balance of probabilities** (the civil standard: more likely than not) for a negligence claim to succeed. In Nigeria, both the tort of negligence in the civil courts and the professional misconduct jurisdiction of the MDCN may be engaged by the same clinical failure: civil proceedings determine compensation; disciplinary proceedings determine professional sanction. Criminal liability may also arise in cases of gross negligence causing death.

Fill in the blank: The three elements required to establish medical negligence are duty of care, _____ of that duty, and causation of harm to the patient.

5.2.2 Standards of care and the reasonable clinician

The standard against which clinical conduct is measured is that of the **reasonable competent practitioner** in the same or similar circumstances. This standard is not perfection: clinicians are not liable simply because a better outcome was possible or because another clinician would have made a different decision. The **Bolam test** established that a clinician is not negligent if they acted in accordance with a practice accepted as proper by a responsible body of medical opinion, even if another body of opinion would have acted differently. This test has been modified: a practice endorsed by a responsible body of opinion may nonetheless be negligent if it cannot withstand logical scrutiny (the **Bolitho** modification).

A specialist is held to the standard of a reasonably competent specialist in their field, not merely to the standard of a general practitioner. A student or junior doctor is held to the standard of the post they occupy rather than their personal level of training: a house officer performing a procedure independently is judged against the standard expected of a house officer in that situation. This means that performing a procedure beyond one competence, or acting independently when supervision is required, exposes both the individual and their supervisor to liability.

Fill in the blank: The _____ test established that a clinician is not negligent if they acted in accordance with a practice accepted as proper by a responsible body of medical opinion, even if another body of opinion would have acted differently.

5.2.3 Common sources of medical negligence claims

Several categories of clinical failure generate the majority of negligence claims. **Diagnostic errors** include failure to diagnose a condition that should have been detected and delay in diagnosis that allows preventable harm to occur. **Prescribing errors** include wrong drug, wrong dose, failure to check for contraindications or interactions, and failure to monitor for toxicity in drugs with narrow therapeutic windows. **Failure to obtain valid informed consent** before a procedure, particularly if the patient was not warned of a risk that subsequently materialised, is a well-established ground of negligence.

Failure to refer when the patient condition requires specialist expertise is a recognised source of claims. **Failure to follow up** investigation results or to communicate abnormal findings to the patient has caused harm in several documented cases. **Communication failures** between members of the clinical team, particularly at handover, are a major proximate cause of adverse events. Clinicians who document their clinical reasoning, their discussion with the patient, and their follow-up plan contemporaneously are substantially better protected against claims than those who rely on memory after an adverse event.

Fill in the blank: _____ errors, including wrong drug, wrong dose, and failure to check contraindications, are among the most common sources of medical negligence claims in clinical practice.

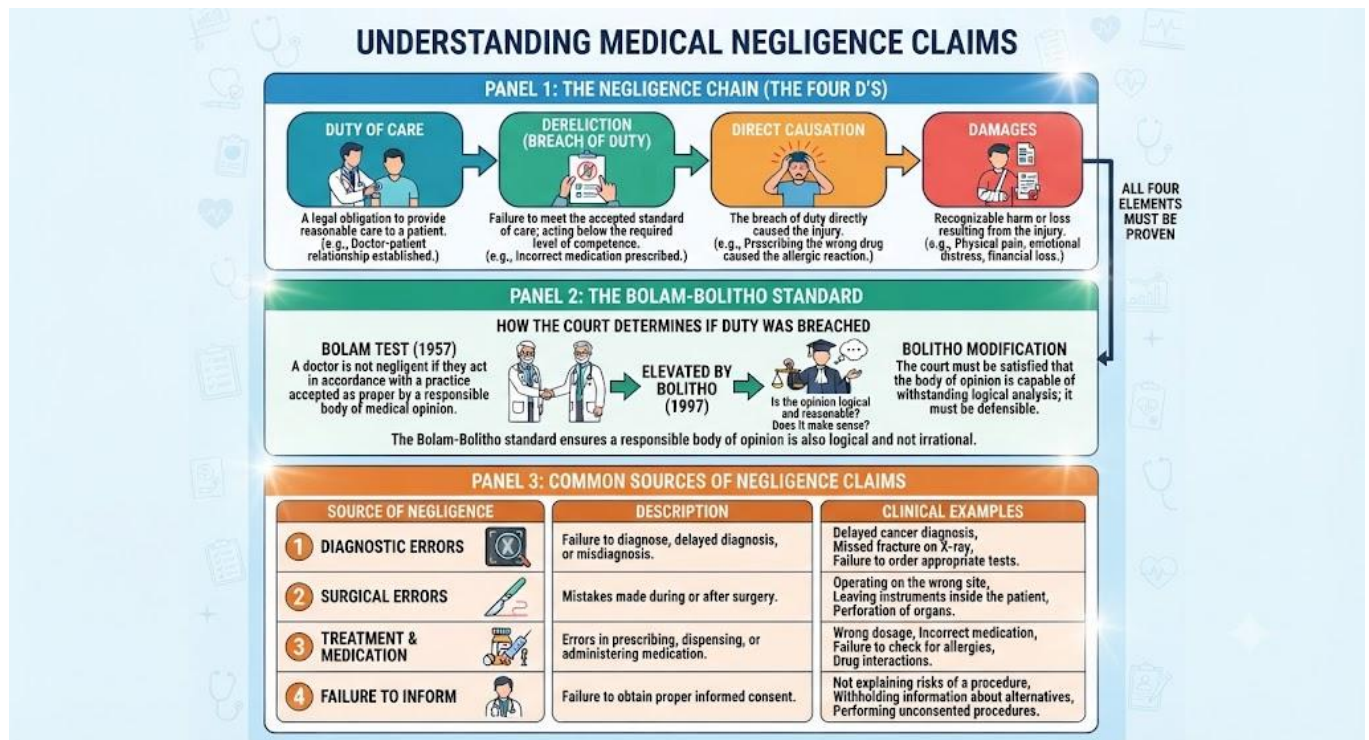


Figure 5.2: Medical negligence: elements, standards, and common sources

Pilot questions 5.2

1. Name the three elements required to establish medical negligence.
2. What standard of proof applies to a civil negligence claim?
3. What does the Bolam test state?
4. To what standard is a specialist physician held in a negligence claim?
5. Name four common sources of medical negligence claims.

5.3 Clinical Records, Certification, and Controlled Substances

5.3.1 The clinical record as a legal document

The clinical record is simultaneously a clinical tool, a communication instrument, and a **legal document**. It may be subpoenaed in civil litigation, admitted as evidence in criminal proceedings, and reviewed in professional disciplinary hearings. A contemporaneous, accurate,

and legible record is the clinician primary defence in any medico-legal challenge: it provides documented evidence of what was assessed, decided, and communicated at the time of the clinical encounter. A record written retrospectively from memory, or one that contains alterations, omissions, or illegible entries, carries substantially reduced evidential value and may itself become evidence of poor practice.

Every clinical entry should contain: the **date and time**, the **clinician name and designation**, the clinical **findings**, the working **diagnosis or differential**, the **management plan**, and any **information given to the patient**. Alterations to existing entries must never be made by erasure or obliteration; the correct method is to draw a single line through the incorrect entry, write the correction beside or below it, and sign and date the correction. Falsification of clinical records is a criminal offence and a ground for removal from the professional register.

Fill in the blank: Alterations to clinical record entries must never be made by _____ ; the correct method is a single line through the error, with the correction signed and dated beside it.

5.3.2 Death certification and medicolegal reports

Death certification is a legal obligation of the attending clinician. The certifying clinician must have attended the deceased during their last illness and must state, to the best of their knowledge and belief, the cause of death in the correct format (immediate cause, antecedent causes, and other contributing conditions). Falsifying a death certificate is a criminal offence. When the cause of death is unknown, unexpected, violent, or possibly the result of negligence, the death must be referred to the coroner rather than certified by the attending clinician.

Medicolegal reports are written medical opinions produced for legal purposes: for courts, insurance companies, employers, or regulatory bodies. They may include clinical assessments of injury or disability, opinions on fitness to work or fitness to stand trial, and expert opinions on standards of clinical care. A medicolegal report must be accurate, objective, based on examination and records, and clearly distinguished from clinical opinion. A clinician who provides a biased or dishonest medicolegal report may face both criminal liability (perjury or contempt of court) and professional disciplinary action.

Fill in the blank: When the cause of death is unknown, violent, or possibly the result of negligence, the death must be referred to the _____ rather than certified by the attending clinician.

5.3.3 Controlled drugs: legal obligations of the prescriber

Controlled drugs, including opioid analgesics, benzodiazepines, and other scheduled substances, are subject to specific legal requirements beyond those governing ordinary prescriptions. In Nigeria, the **National Drug Law Enforcement Agency Act** and related regulations govern the prescribing, dispensing, storage, and record-keeping requirements for controlled substances. A legal prescription for a controlled drug must include the patient name and address, the drug name and formulation, the dose, the quantity (written in both words and figures), the date, and the prescriber full name, address, signature, and professional registration number.

Controlled drug registers must be maintained in facilities that stock these substances, recording every receipt and every dispensing with quantities and patient identifiers. **Diversion** of controlled drugs (stealing or redirecting them for personal use or sale) is a criminal offence and a serious breach of professional conduct. The legitimate clinical use of controlled drugs, particularly opioids for pain management in cancer and palliative care, is sometimes impeded by excessive regulatory caution; clinicians have a professional obligation to prescribe adequate analgesia for patients in pain and to engage with the regulatory framework appropriately rather than avoiding controlled drugs for fear of scrutiny.

Fill in the blank: A legal prescription for a controlled drug in Nigeria must include the quantity written in both _____ and figures, along with the patient details and the prescriber registration number.

NIGERIA MEDICAL PRACTICE: LEGAL & REGULATORY REQUIREMENTS

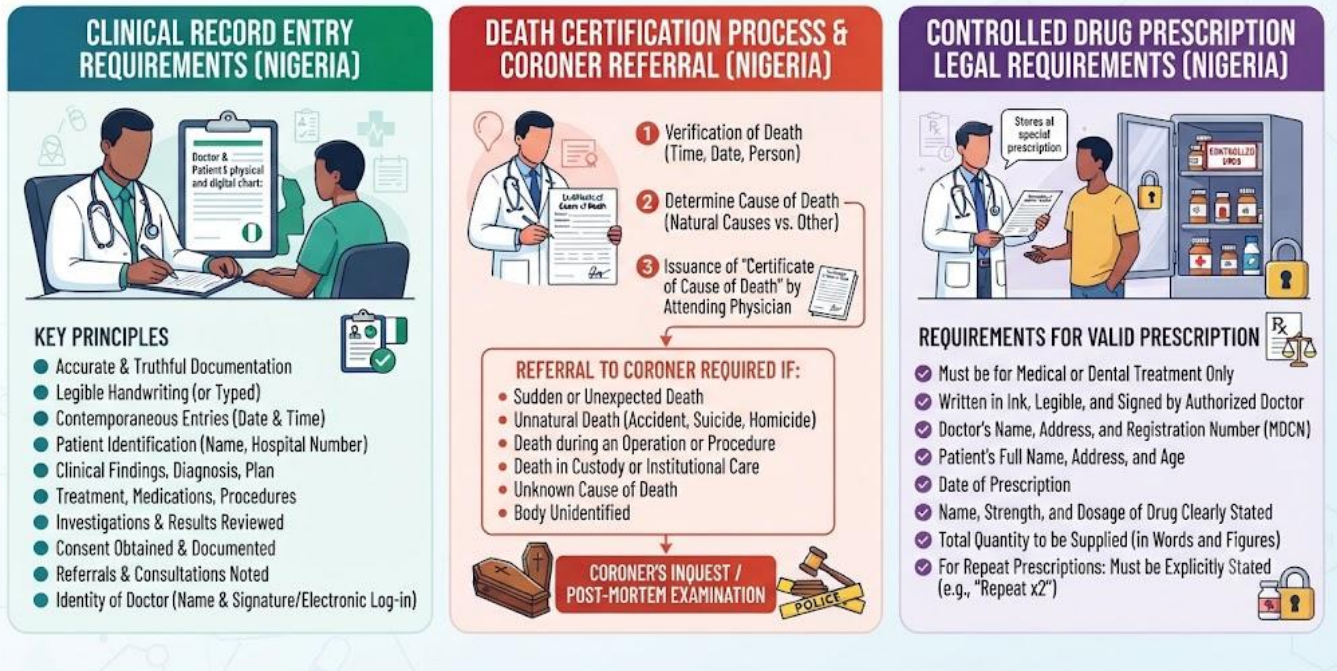


Figure 5.3: Clinical records, death certification, and controlled drugs

Pilot questions 5.3

1. Name five elements that every clinical record entry must contain.
2. What is the correct way to correct an error in a clinical record?
3. When must a death be referred to a coroner rather than certified by the attending clinician?
4. Name three additional elements required in a prescription for a controlled drug compared to an ordinary prescription.
5. What is diversion of controlled drugs and what are its consequences?

5.4 Regulation, Discipline, and Patient Rights

5.4.1 Regulatory bodies and professional discipline

Professional discipline in Nigerian healthcare is administered by statutory regulatory bodies established under legislation. The **Medical and Dental Council of Nigeria (MDCN)** regulates physicians and dentists; the **Nursing and Midwifery Council of Nigeria (NMCN)** regulates nurses and midwives; the **Pharmacists Council of Nigeria (PCN)** regulates pharmacists; and equivalent bodies exist for laboratory scientists, radiographers, physiotherapists, and other regulated professions. Each council maintains a register of licensed practitioners, sets minimum standards, accredits training programmes, and investigates complaints of professional misconduct.

When a complaint of professional misconduct is received, the relevant council convenes a **Professional Conduct Tribunal (PCT)** or equivalent disciplinary body to investigate the allegation. Sanctions available include a formal warning, suspension from practice for a defined period, or removal from the register (**erasure**). A practitioner removed from the register may not lawfully practise their profession; doing so constitutes a criminal offence. The MDCN and equivalent bodies are distinct from the courts: they determine professional fitness to practise, not civil or criminal liability, though the same conduct may engage all three jurisdictions simultaneously.

Fill in the blank: The Medical and Dental Council of Nigeria regulates physicians and dentists; the most severe sanction available is _____ from the professional register, which prohibits the practitioner from lawful practice.

5.4.2 Patient rights under the National Health Act 2014

The **National Health Act 2014** is the primary statute codifying patient rights in Nigeria. Section 20 establishes the right of every user of health services to: receive treatment and emergency care regardless of ability to pay; be informed about their health status in a language they understand; informed consent before treatment; confidentiality of their health information; participate in decisions affecting their health; refuse treatment; and be treated with dignity and respect without

unfair discrimination. These rights are not aspirational; they are legally enforceable obligations on healthcare providers.

In practice, many of these rights are routinely violated in Nigerian healthcare settings: patients are denied emergency care for inability to pay, diagnoses are withheld without consent, and confidential information is discussed carelessly in open wards. These violations expose healthcare providers and facilities to legal liability under the Act. Clinicians who understand the legal basis of patient rights are better placed both to protect those rights and to protect themselves from the legal consequences of their violation. Institutional culture must change alongside individual practice; advocating for rights-respecting institutional policies is itself a professional obligation.

Fill in the blank: Under the National Health Act 2014, every patient has the right to receive _____ and emergency care regardless of their ability to pay for healthcare services.

5.4.3 Emerging issues in medical jurisprudence in Nigeria

Several emerging legal issues are reshaping medical jurisprudence in Nigeria. **Digital health and telemedicine** raise questions about which jurisdiction governs a teleconsultation conducted across state or national boundaries, which professional standards apply, and how liability is allocated when a diagnostic error occurs in a remote consultation. The **Nigeria Data Protection Act 2023** establishes obligations for the protection of personal health data in electronic health record systems, creating liability for breaches of data security. **Artificial intelligence** in clinical decision support raises questions about liability when an AI recommendation contributes to patient harm.

Research ethics and the liability of Nigerian investigators and institutions in clinical trials sponsored by pharmaceutical companies from high-income countries remain under-regulated. The **National Code for Health Research Ethics** establishes requirements for institutional review, informed consent, and participant protection, but enforcement is inconsistent. As Nigerian healthcare becomes more complex, more digitised, and more interconnected with global health systems, the legal framework must evolve to protect both patients and clinicians. Engagement with these emerging issues through professional associations, policy advocacy, and

continuing legal education is a dimension of professional responsibility that extends beyond the clinical encounter.

Fill in the blank: The Nigeria Data Protection Act _____ establishes legal obligations for the protection of personal health data in electronic health record systems, creating liability for data security breaches.

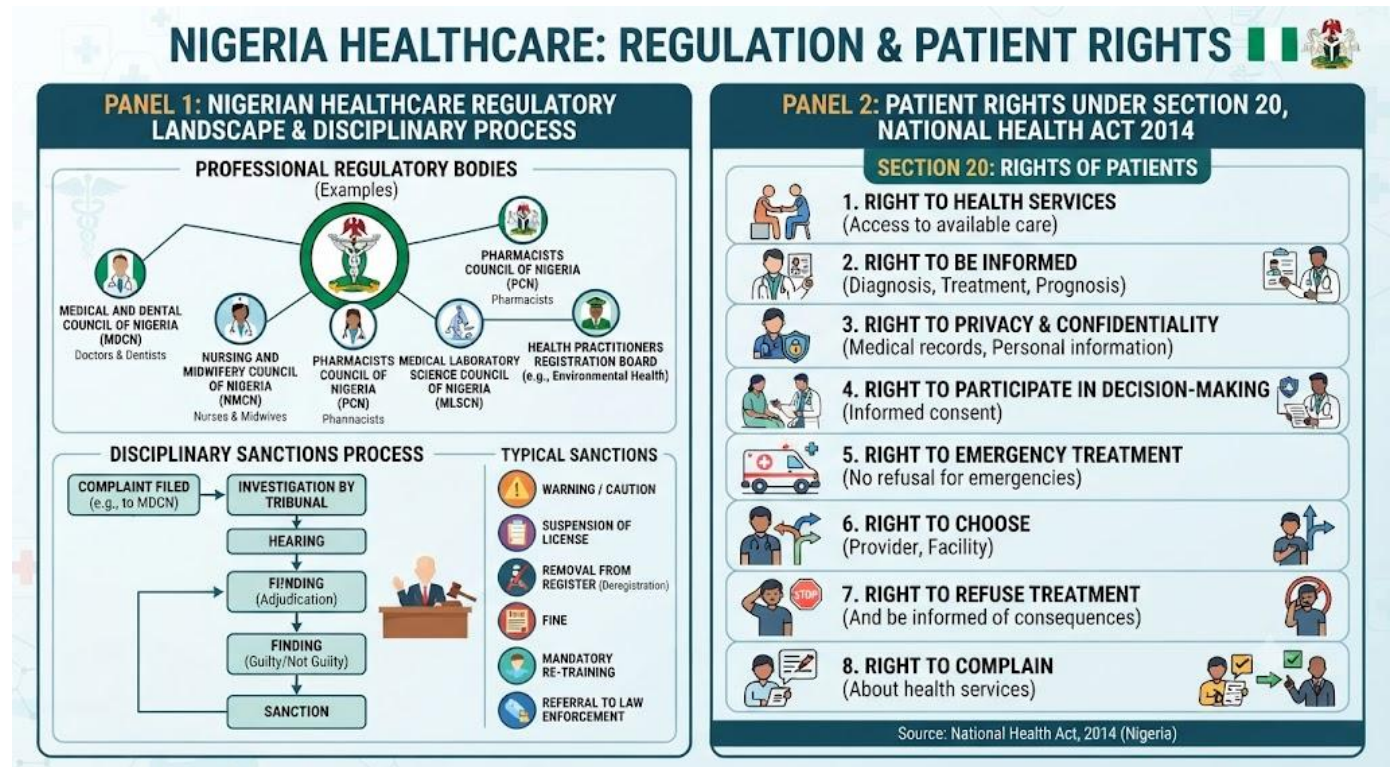


Figure 5.4: Regulatory framework and patient rights in Nigerian healthcare

Pilot questions 5.4

1. Name five regulatory bodies for health professions in Nigeria.
2. What is the most severe sanction available to the MDCN?
3. Name four patient rights established by the National Health Act 2014.
4. Name two emerging legal issues in Nigerian medical jurisprudence.
5. What does the Nigeria Data Protection Act 2023 require of healthcare providers?

Series Summary

This Series examined the legal framework within which clinical practice operates in Nigeria. Medical jurisprudence was defined and its sources identified: statute law, common law, professional regulations, case law, and ethical guidelines. The doctor-patient relationship was shown to be a contractual or tortious relationship carrying duties of care, confidentiality, referral, and record-keeping. Medical negligence requires proof of duty, breach, and causation, and the standard applied is that of the reasonably competent practitioner as modified by the Bolam and Bolitho principles. Common negligence sources including diagnostic errors, prescribing errors, consent failures, and communication breakdowns were described.

Clinical records, death certification, medicolegal reports, and controlled drug management were examined as areas carrying specific legal obligations whose violation has serious professional and criminal consequences. The regulatory bodies governing professional discipline were described alongside the patient rights codified in the National Health Act 2014. The Series concluded with emerging legal issues including digital health, data protection, AI liability, and research ethics. Together these principles equip you to practise within the legal framework and to protect both your patients and yourself from the consequences of legal failures (SLOs 5.1 to 5.7).

Glossary of Terms

- **Bolam test:** the legal standard that a clinician is not negligent if they acted in accordance with a practice accepted as proper by a responsible body of medical opinion.
- **Bolitho modification:** the refinement of the Bolam test requiring that a practice endorsed by a responsible body of opinion must also be capable of withstanding logical scrutiny.
- **Causation:** the third element of negligence, requiring that the breach of duty caused the patient harm.
- **Coroner:** an official responsible for investigating deaths that are sudden, unexplained, violent, or possibly the result of negligence.

- **Death certification:** the legal document certifying the cause and circumstances of death, signed by the attending clinician; falsification is a criminal offence.
- **Diversion:** the stealing or redirecting of controlled drugs for personal use or sale; a criminal offence and serious professional misconduct.
- **Duty of care:** the legal obligation arising from the clinical relationship, requiring the clinician to meet the expected standard of care.
- **Erasure:** the removal of a practitioner from the professional register, the most severe sanction available to regulatory bodies, prohibiting lawful practice.
- **Medical jurisprudence:** the application of legal principles to medical practice and of medical knowledge to legal questions.
- **Medical negligence:** the failure to meet the standard of care expected of a reasonably competent practitioner, causing harm; requires proof of duty, breach, and causation.
- **Professional Conduct Tribunal:** the disciplinary body convened by a professional council to investigate complaints of professional misconduct.

Concept Check Questions [Series 5]

Objective questions

1. _____ jurisprudence is the application of legal principles to the practice of medicine and of medical knowledge to legal questions. (Linked to SLO 5.1)
2. The _____ Health Act 2014 is the primary statute establishing patient rights and provider obligations in Nigeria. (Linked to SLO 5.1)
3. The three elements required to establish medical negligence are duty of care, _____, and causation. (Linked to SLO 5.3)
4. The _____ test established that a clinician is not negligent if they acted in accordance with a practice accepted by a responsible body of medical opinion. (Linked to SLO 5.3)
5. Falsification of a clinical record is a _____ offence and a ground for removal from the professional register. (Linked to SLO 5.5)
6. The most severe sanction available to the MDCN is _____ from the professional register. (Linked to SLO 5.6)

Short-answer questions

7. Describe the three elements of medical negligence and explain the standard of proof required in a civil negligence claim. (Linked to SLO 5.3)
8. Name four common sources of medical negligence claims and describe one clinical example of each. (Linked to SLO 5.4)
9. Describe four patient rights established by the National Health Act 2014 and explain the legal consequence of violating them. (Linked to SLO 5.7)

Long-answer questions

10. Discuss medical negligence in Nigerian clinical practice, covering its elements, the standard of care, the common sources of claims, and the measures a clinician can take to reduce their liability. (Linked to SLOs 5.3, 5.4)

11. Discuss the legal obligations of a Nigerian clinician in relation to clinical records, death certification, and controlled drugs, and explain the consequences of failing to meet these obligations. (Linked to SLOs 5.5, 5.6)

Answers to Concept Check Questions [Series 5]

Objective questions

1. Medical.
2. National.
3. Breach.
4. Bolam.
5. Criminal.
6. Erasure.

Short-answer questions

7. Duty of care: established by the existence of a clinical relationship; easily proved.
Breach: conduct that falls below the standard of a reasonably competent practitioner in the same circumstances. Causation: the breach must have caused recognisable harm to the patient; harm that would have occurred regardless does not satisfy this element.
Standard of proof: the balance of probabilities (more likely than not) in civil proceedings.
8. Diagnostic error: failure to diagnose appendicitis leading to perforation and peritonitis.
Prescribing error: prescribing penicillin to a patient with documented penicillin allergy causing anaphylaxis. Failure to obtain consent: performing a hysterectomy without disclosing the risk of infertility. Failure to refer: managing a patient with signs of meningitis in a primary care setting without specialist referral, resulting in permanent neurological damage.
9. Right to emergency care regardless of ability to pay: legal obligation not to withhold emergency treatment for financial reasons; violation exposes the facility to civil liability and potential criminal prosecution. Right to informed consent: treatment without valid consent may constitute battery; violation may lead to civil and professional sanction. Right to confidentiality: unauthorised disclosure exposes the clinician to civil liability

and disciplinary action. Right to be treated with dignity: discriminatory or degrading treatment violates the Act and may be pursued through the courts or complaints mechanisms.

Long-answer questions

10. Basic response

Elements: duty of care (established by clinical relationship), breach (conduct below standard of reasonably competent practitioner), causation (breach caused harm; balance of probabilities). Standard: Bolam (responsible body of medical opinion would accept the practice), Bolitho modification (practice must withstand logical scrutiny). Specialist held to specialist standard; junior doctor held to standard of the post occupied. Common sources: diagnostic error (missed or delayed diagnosis), prescribing error (wrong drug, dose, contraindicated), consent failure (material risk not disclosed), failure to refer (specialist expertise needed but not sought), failure to follow up (abnormal results not communicated), communication failure (handover breakdown). Risk reduction: contemporaneous accurate records, documented consent discussions, systematic follow-up systems, prompt referral when indicated, SBAR handover, seeking supervision within competence.

10. Value-added response

The most protective single measure against negligence liability is a complete, contemporaneous clinical record. Courts consistently find that an undocumented clinical decision did not happen; a documented decision, even an imperfect one, demonstrates clinical reasoning and engagement with the patient. The clinician who routinely documents their differential diagnosis, their discussion with the patient, and their plan for follow-up is substantially better protected than one who relies on memory after an adverse event.

11. Basic response

Clinical records: contemporaneous, accurate, legible, dated, timed, signed; elements include findings, diagnosis, plan, information given; alterations by single line through error, initialled and dated; erasure prohibited; falsification is criminal offence and ground for erasure. Death certification: attending clinician certifies cause of death in correct format; unknown, violent, or possibly negligent deaths referred to coroner; falsification is criminal. Medicolegal reports: objective, accurate, based on examination and records; bias or dishonesty risks criminal and professional liability. Controlled drugs: legal prescription requirements (quantity in words and figures, registration number); controlled drug registers required; diversion is criminal offence; clinicians obliged to prescribe adequate analgesia within regulatory framework.

11. Value-added response

The obligation to maintain controlled drug registers and to prescribe opioids within regulatory requirements creates a tension: clinicians in Nigeria often under-prescribe opioid analgesia for fear of regulatory scrutiny, leaving cancer and palliative care patients undertreated. The legal and professional obligation runs in both directions: failing to maintain the register is wrong, but so is failing to prescribe adequate pain relief to a patient who needs it. The regulatory framework is designed to prevent diversion, not to prevent legitimate analgesia; understanding this distinction is essential for both legal compliance and ethical patient care.

Answers to Pilot Questions [Series 5]

Part 5.1

1. Medical jurisprudence is the application of legal principles to the practice of medicine and the application of medical knowledge to legal questions arising in clinical and forensic contexts.

2. Any three of: statute law, common law, professional regulations, case law, ethical guidelines.
3. The National Health Act 2014.
4. A tortious relationship governed by the duty of care: the clinician owes the patient a legal duty of care arising from the professional relationship, breach of which causing harm gives rise to a claim in negligence.
5. Any three of: duty of care, duty of confidentiality, duty of referral, duty to maintain accurate records.

Part 5.2

1. Duty of care, breach of duty, causation of harm.
2. The balance of probabilities (more likely than not).
3. A clinician is not negligent if they acted in accordance with a practice accepted as proper by a responsible body of medical opinion, even if another body of opinion would have acted differently.
4. To the standard of a reasonably competent specialist in their field, not merely to the standard of a general practitioner.
5. Any four of: diagnostic error, prescribing error, failure to obtain valid informed consent, failure to refer, failure to follow up, communication failure at handover.

Part 5.3

1. Any five of: date and time, clinician name and designation, clinical findings, working diagnosis or differential, management plan, information given to the patient.
2. Draw a single line through the incorrect entry without obliterating it, write the correction beside or below it, and sign and date the correction.
3. When the cause of death is unknown, unexpected, violent, or possibly the result of negligence or industrial disease.

4. Any three additional elements: quantity written in both words and figures; prescriber full address and registration number; patient address (in addition to name).
5. Diversion is the stealing or redirecting of controlled drugs for personal use or sale.
Consequences: criminal prosecution under the National Drug Law Enforcement Agency Act; professional disciplinary proceedings and possible erasure from the professional register.

Part 5.4

1. MDCN (physicians and dentists), NMCN (nurses and midwives), PCN (pharmacists), MLSCN (medical laboratory scientists), RRBN (radiographers).
2. Erasure from the professional register, which prohibits the practitioner from lawful practice.
3. Any four of: emergency care regardless of ability to pay; information about health status in understood language; informed consent before treatment; confidentiality of health information; participation in health decisions; refusal of treatment; treatment with dignity and without discrimination.
4. Any two of: digital health and telemedicine jurisdiction and liability; data protection obligations under the Nigeria Data Protection Act 2023; AI clinical decision support liability; research ethics and pharmaceutical trial regulation.
5. Healthcare providers must implement appropriate technical and organisational measures to protect personal health data held in electronic systems from unauthorised access, loss, or breach, and are liable for data security failures.

References and Attributions [Series 5]

Textual references

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Figures, Plates, Tables, and Boxes

- Figure 5.1: Sources of medical law in Nigeria Attribution: AI generated using prompt "Generate an overlapping circles diagram showing the five sources of medical law in Nigeria: statute law, common law, professional regulations, case law, and ethical guidelines, with examples of each." Suggested OER search string: "sources medical law Nigeria statute common law professional regulations case law MDCN OER"
- Figure 5.2: Medical negligence: elements, standards, and common sources Attribution: AI generated using prompt "Generate a three-panel diagram showing the negligence chain (duty, breach, causation), the Bolam-Bolitho standard, and a table of common negligence claim sources with examples." Suggested OER search string: "medical negligence elements duty breach causation Bolam standard negligence claims OER"
- Figure 5.3: Clinical records, death certification, and controlled drugs Attribution: AI generated using prompt "Generate a three-panel diagram showing clinical record entry requirements, death certification process with coroner referral indications, and controlled drug prescription legal requirements in Nigeria." Suggested OER search string: "clinical records legal document death certification coroner controlled drugs prescription Nigeria OER"

- Figure 5.4: Regulatory framework and patient rights in Nigerian healthcare Attribution: AI generated using prompt "Generate a two-panel diagram showing the Nigerian healthcare regulatory landscape with professional councils and disciplinary sanctions, and the patient rights under Section 20 of the National Health Act 2014." Suggested OER search string: "MDCN NMCN PCN professional regulation Nigeria National Health Act 2014 patient rights OER"